OLIVETTI LOGOS 245, 250, 270 FAULT FINDING GUIDE

olivetti

LOGOS 245 - 250 - 270

FAULT-FINDING GUIDE

CUSTOMER ENGINEERING SERVICE

OE-45-RG

LOGOS 245 - LOGOS 250 - LOGOS 270

FAULT-FINDING GUIDE

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GENERAL

LOGOS 245 - 250 - 270

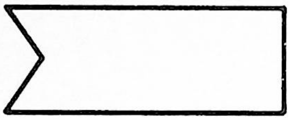
FAULT-FINDING GUIDE

The purpose of this publication is to guide the technician in the repair of the LOGOS 270, 245, 270 with double line space, 245 with time switch, and 250.

This section contains the information necessary to interpret the guide.

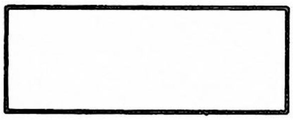
SYMBOLOGY

STARTING POINT



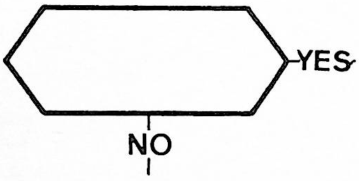
The *first operation* to be performed is described inside the block.

GENERIC OPERATION



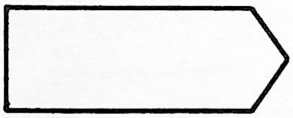
A *generic operation* to be performed is described inside the block.

ALTERNATIVE



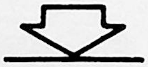
A *condition*, which may or may not correspond to the state of the machine, is described inside the block.

EXIT

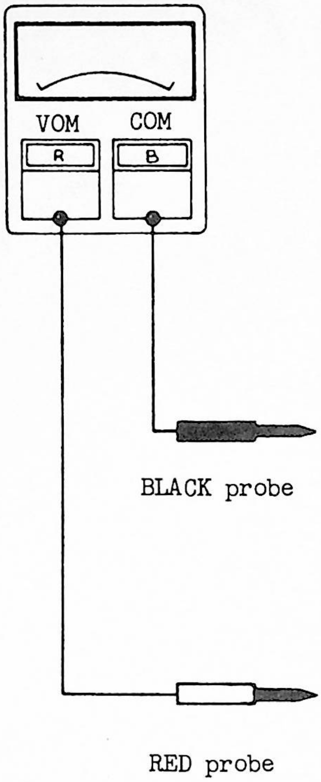


The instructions inside this block indicate the page or section where the intervention procedure is to be resumed.

FOLLOW UP



This symbol means that you must FOLLOW UP the intervention procedure, according to an OUTPUT indication.



VOM METER

This figure represents a VOM meter.

The VOM pointer indicates the value to be reached by performing the operations indicated.

The RED probe must be connected with the VOM socket indicated by inscription: VOM.

The BLACK probe must be connected with the VOM socket indicated by inscription: COM.

IF the VOM is provided with a scale different from the one indicated in the figure, use the scale immediately higher.

NOTE: The VOM used to perform the various tests featured the same characteristics as the Triplett, Model 310, VOM. Therefore, if a tester is used that has different characteristics, other readings may result when performing tests on electronic components.

ELECTRONIC COMPUTING UNIT (ECU)

The ECU consists of the following parts:

1) ECU Board + Memory

2) Fire Hammer Board

The ECU must be replaced at the customer's premises as a complete unit.

INSTRUCTIONS FOR USING THE GUIDE

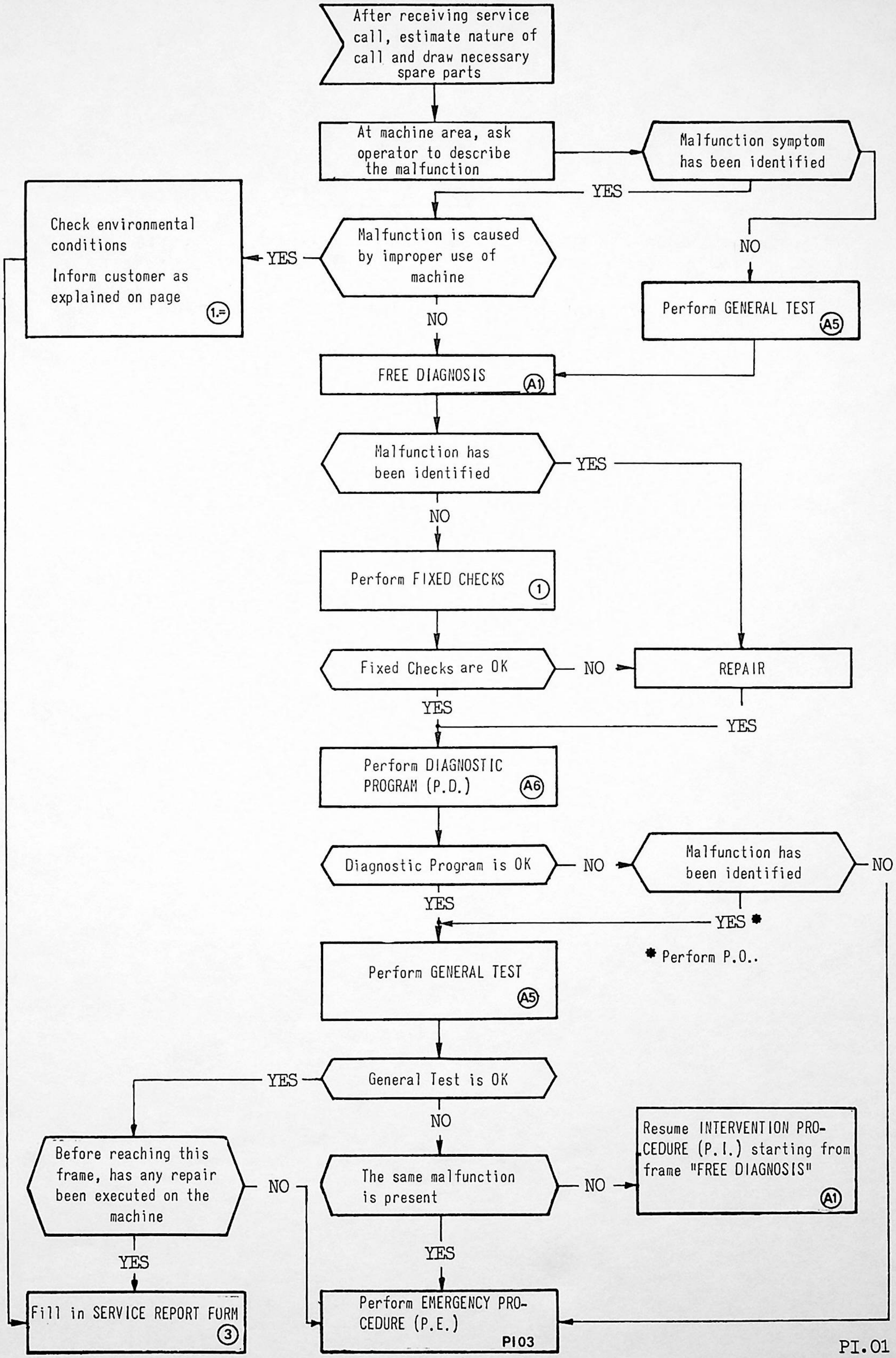
Start the Intervention Procedure from page PI.01.

Every time you stop the procedure to consult another chapter, note and remember the output. This will allow you to correctly resume the procedure at any time.

This guide is also provided with Appendixes, which are often referenced during the performance of procedures.

INTERVENTION PROCEDURE

INTERVENTION PROCEDURE (P.I.)

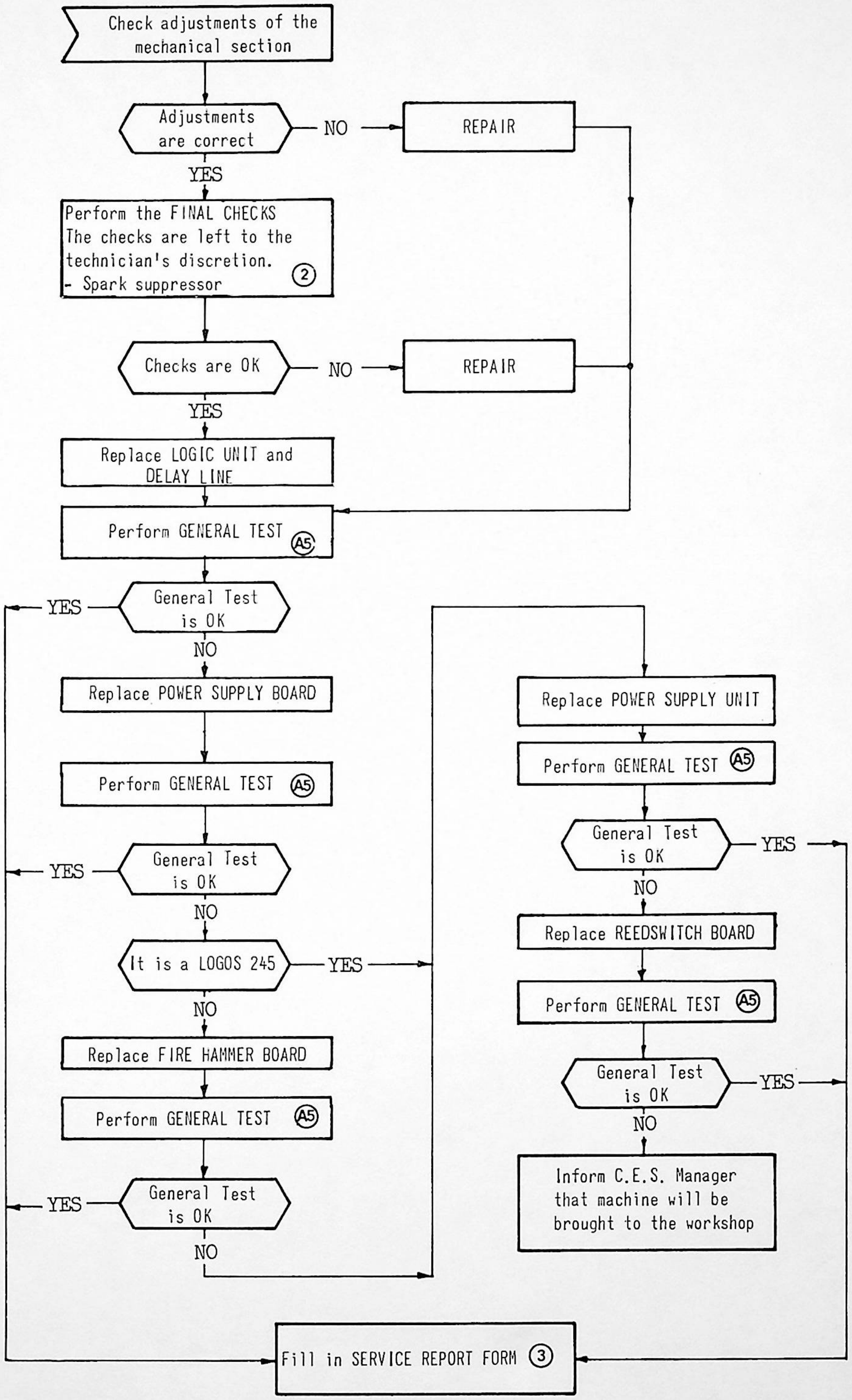

After receiving service call, estimate nature of call and draw necessary spare parts
At machine area, ask operator to describe the malfunction
Malfunction symptom has been identified
YES
NO
Perform GENERAL TEST
A5
Check environmental conditions
Inform customer as explained on page
1.=
YES
Malfunction is caused by improper use of machine
NO
FREE DIAGNOSIS
A1
Malfunction has been identified
YES
NO
Perform FIXED CHECKS
1
Fixed Checks are OK
NO
REPAIR
YES
YES
Perform DIAGNOSTIC PROGRAM (P.D.)
A6
Diagnostic Program is OK
NO
Malfunction has been identified
NO
YES
YES ✱
✱ Perform P.O..
Perform GENERAL TEST
A5
YES
General Test is OK
NO
Before reaching this frame, has any repair been executed on the machine
NO
The same malfunction is present
NO
Resume INTERVENTION PROCEDURE (P.I.) starting from frame "FREE DIAGNOSIS"
A1
YES
YES
Fill in SERVICE REPORT FORM
3
Perform EMERGENCY PROCEDURE (P.E.)
PI03

EMERGENCY PROCEDURE NOTE

When following the Emergency Procedure, the parts that were replaced while executing the Diagnostic Program (A6) are not to be replaced again, even if the symptom malfunction has remained identical to the one preceding the replacement. As a matter of fact, the parts that were replaced are to be considered satisfactory.

EMERGENCY PROCEDURE (P.E.)

(See Note on opposite page)



WORKSHOP PROCEDURE

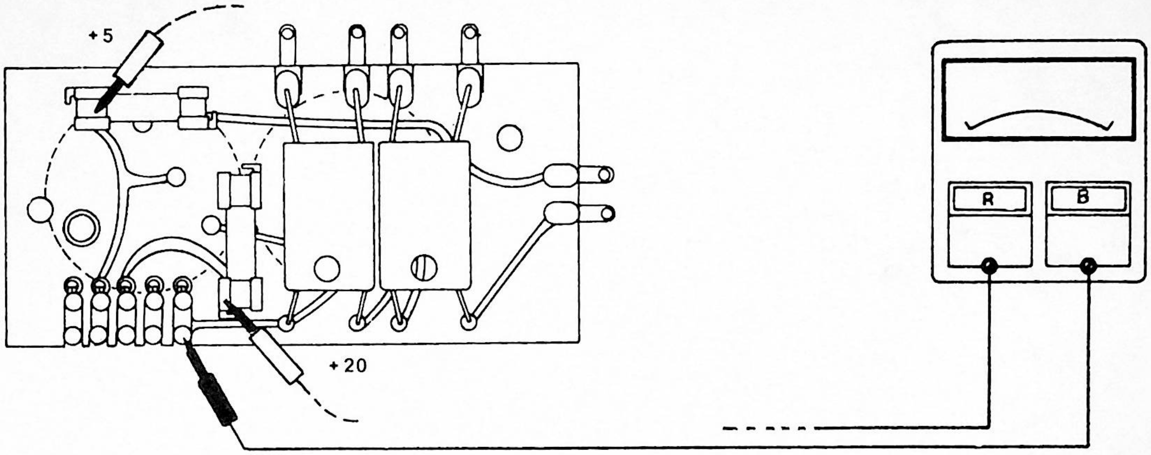
FIXED CHECKS

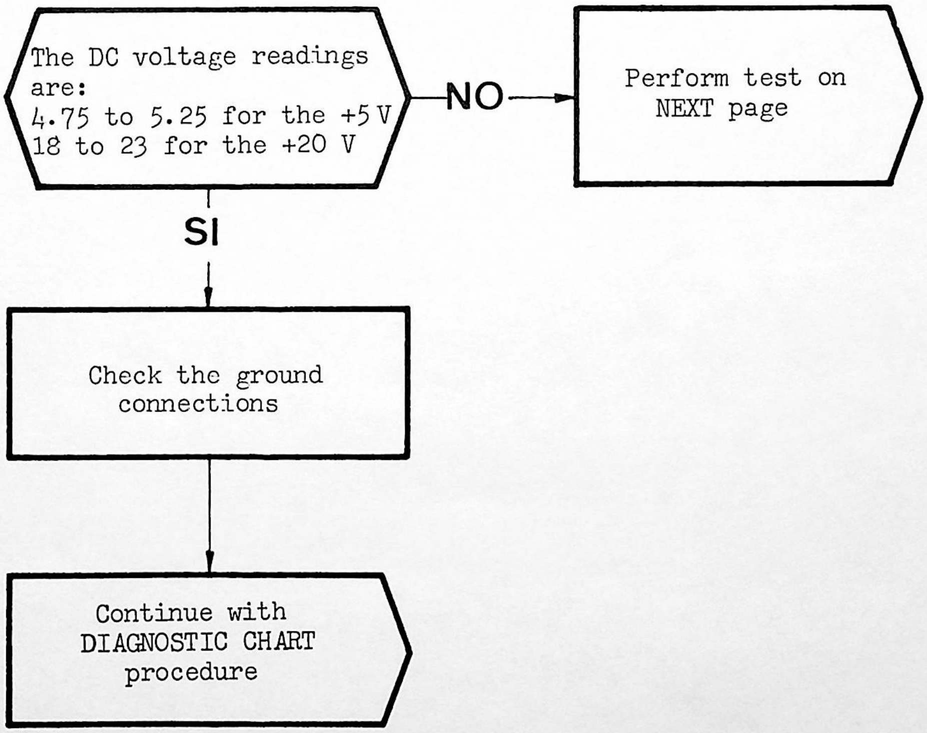
CORRECT OPERATING CONDITIONS

The operating conditions listed below must be suggested to the customer in case of an intermittent fault.

- The machine power supply must be grounded.
- The unit consisting of the AC socket, power cord, and machine socket must be in good working condition.
- The machine must operate with the cooling vents free for complete air exchange.
- The paper, of the recommended type, must be inserted correctly into the machine.
- The ribbon must be inserted correctly into the machine, and must be free to advance.
- The machine must be kept away from any heating source or from direct exposure to the sun.
- The power cord must not cross any passageway.

DC VOLTAGE READINGS




The DC voltage readings are:
4.75 to 5.25 for the +5 V
18 to 23 for the +20 V

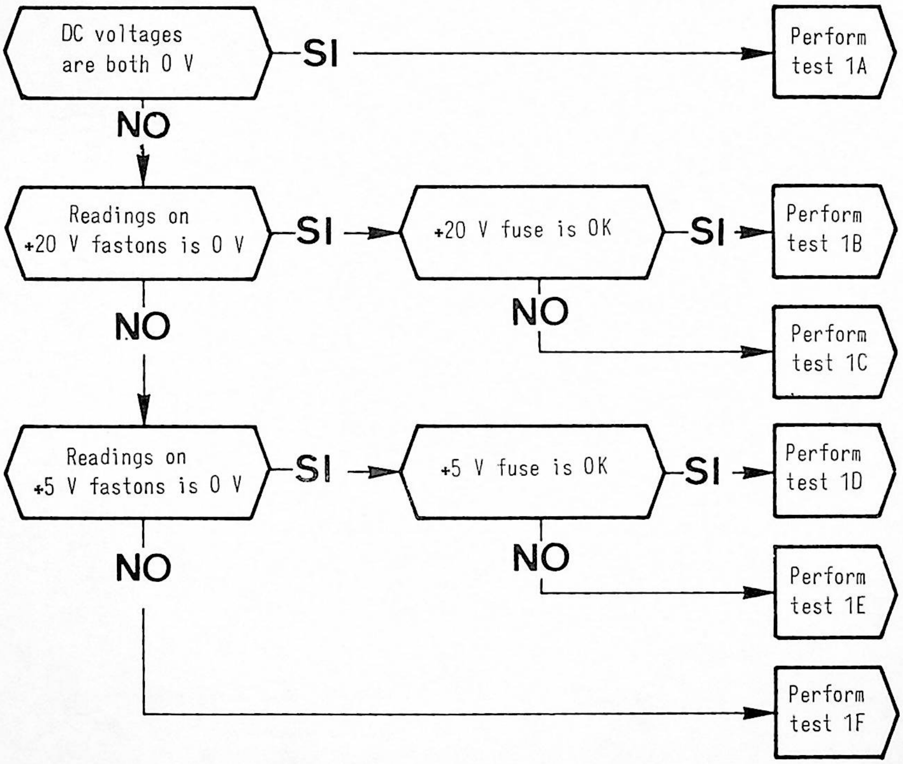
Perform test on NEXT page

Check the ground connections

Continue with DIAGNOSTIC CHART procedure

DC VOLTAGE READINGS

The DC voltages are not within the tolerance limits:

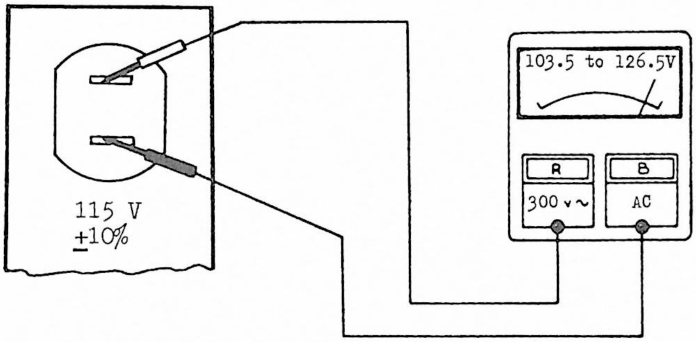


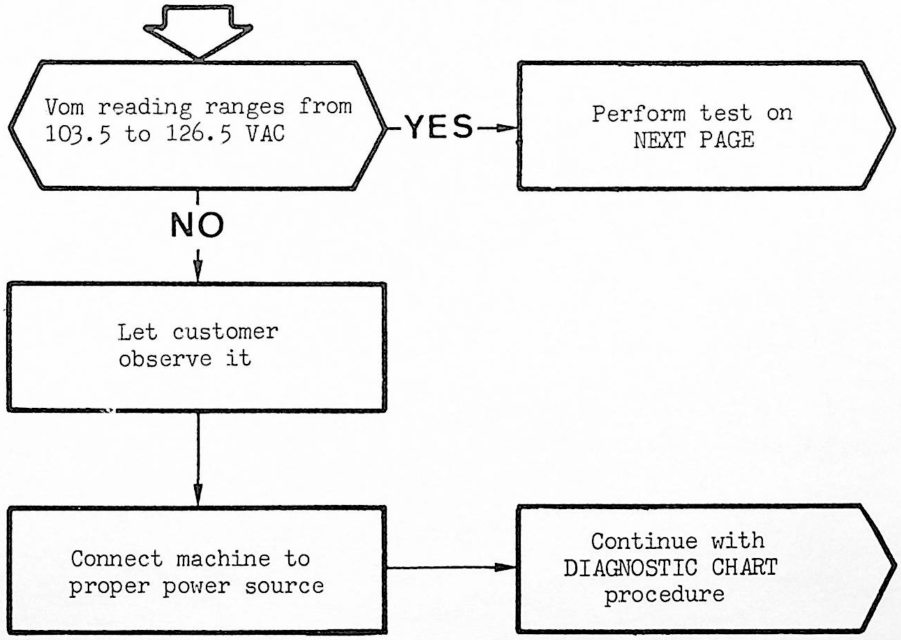
TEST 1A1

AC VOLTAGE

PRELIMINARY OPERATIONS

1 - Remove line cord from wall socket
2 - Set VOM for an AC voltage measurement (scale 300V AC)
3 - Perform test as shown in figure




Vom reading ranges from 103.5 to 126.5 VAC

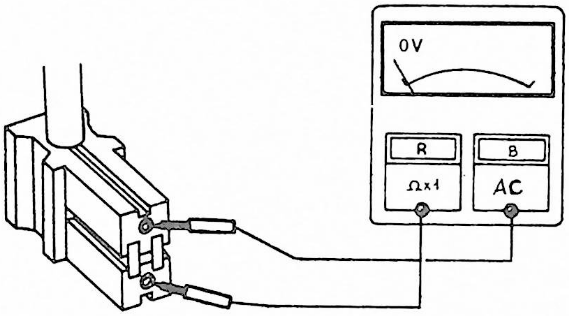
YES → Perform test on NEXT PAGE

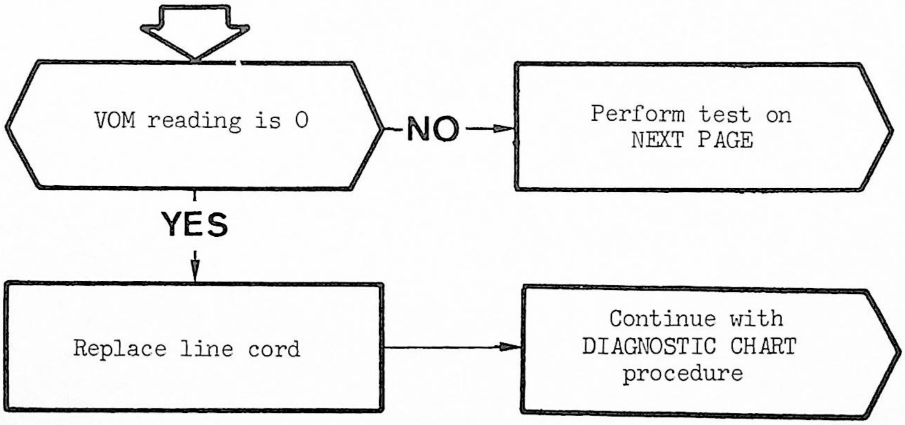
NO → Let customer observe it

Connect machine to proper power source

Continue with DIAGNOSTIC CHART procedure

TEST 1A2	LINE CORD
PRELIMINARY OPERATIONS	1 - Remove line cord from machine side 2 - Set VOM for an AC voltage measurement (scale 300V AC) 3 - Perform test as shown in figure



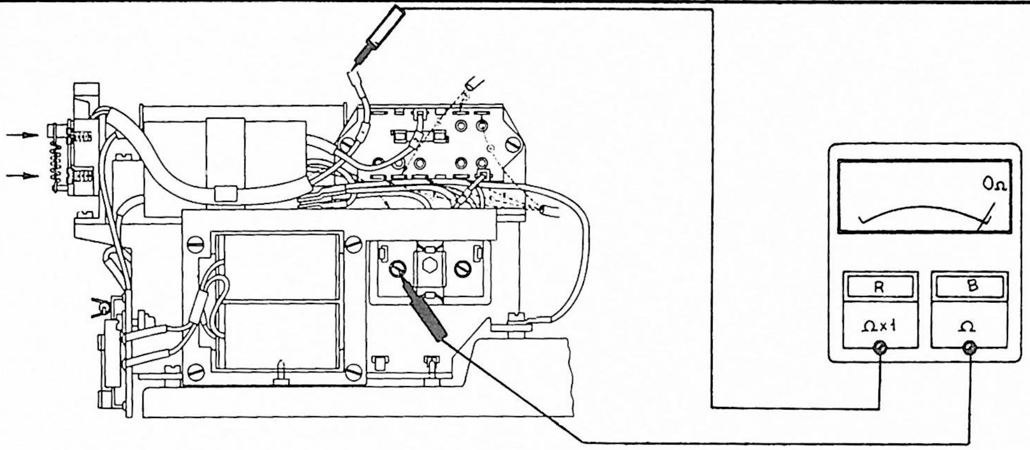

VOM reading is 0
NO
Perform test on NEXT PAGE
YES
Replace line cord
Continue with DIAGNOSTIC CHART procedure

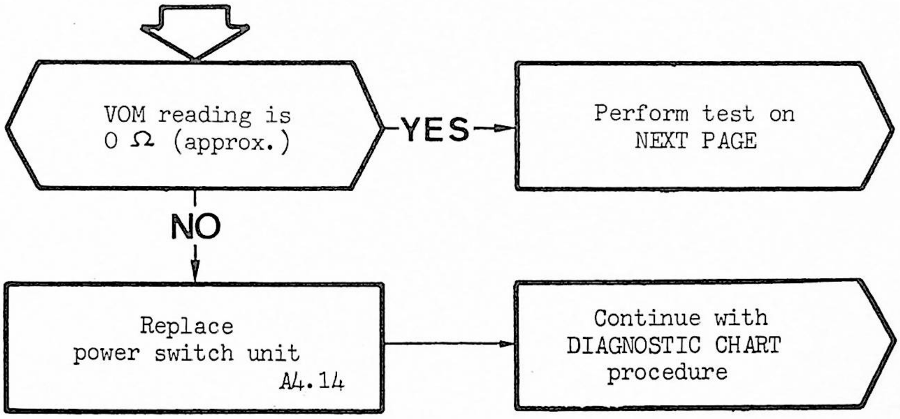
TEST
1A3

POWER SWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove faston N.1 from distribution plate
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Turn power switch on and make sure that the points are in contact (to obtain contact, adjust screws shown in figure)
5 - Perform test as shown in figure





TEST 1A 4

TRANSFORMER WINDING

PRELIMINARY OPERATIONS

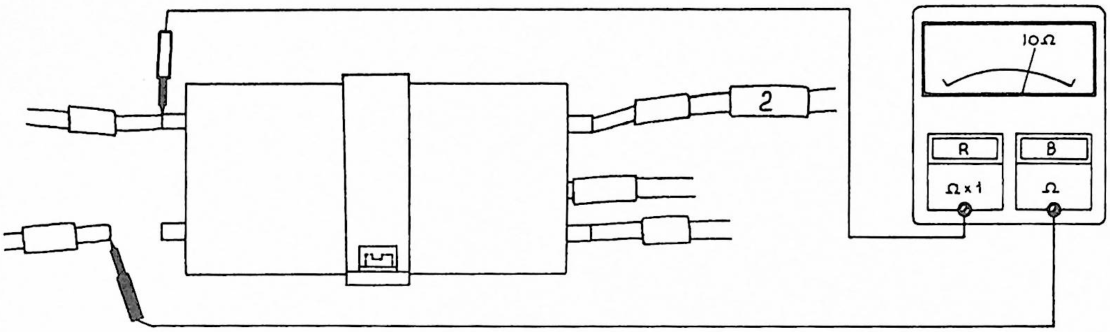
1 - Remove line cord

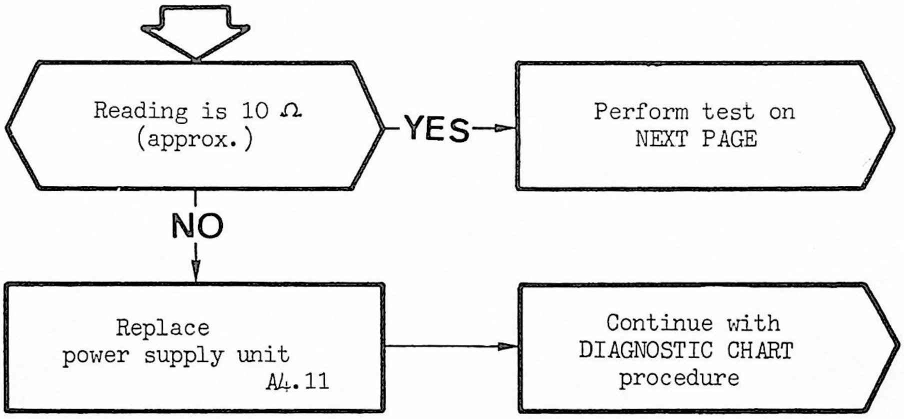
2 - Remove plastic insulator from filter leads

3 - Unsolder wire illustrated in figure below

4 - Set VOM for a continuity check (scale Ω x 1)

5 - Perform test as shown in figure




Reading is 10 Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace power supply unit A4.11
Continue with DIAGNOSTIC CHART procedure

TEST 1A5

AC FILTER

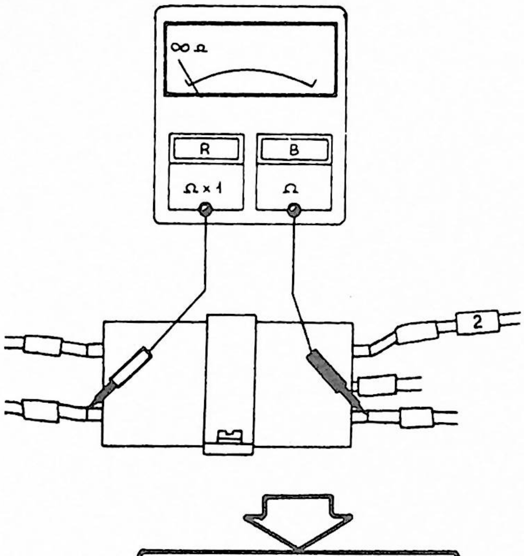
PRELIMINARY OPERATIONS

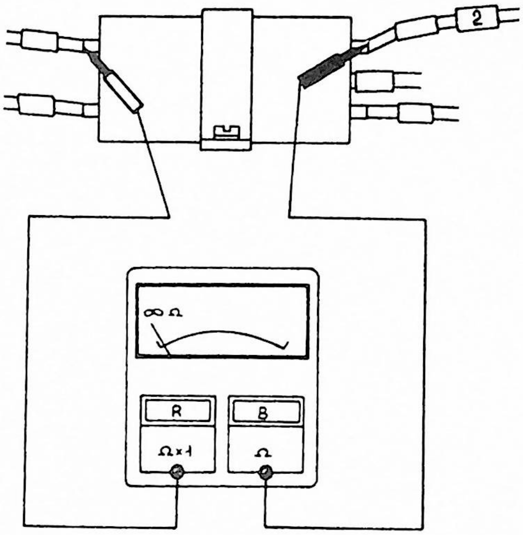
1 - Remove line cord

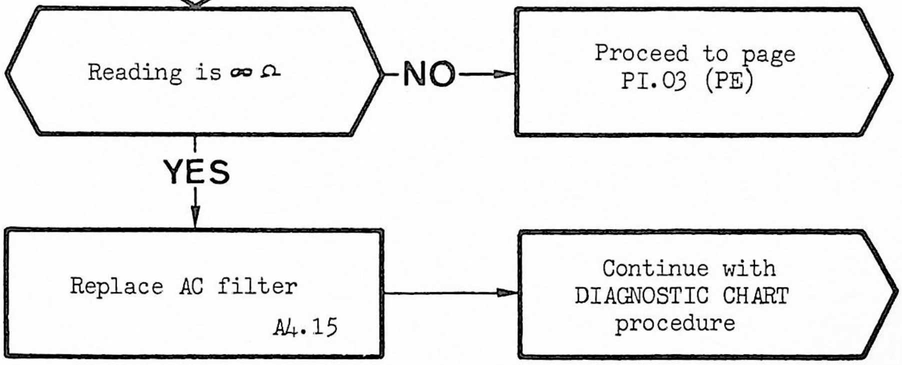
2 - Remove plastic insulators from filter leads

3 - Set VOM for a continuity check (scale Ω x 1)

4 - Perform test as shown in figure







Reading is ∞ Ω

Proceed to page PI.03 (PE)

Replace AC filter A4.15

Continue with DIAGNOSTIC CHART procedure

TEST 1B1

+20 VDC WINDING

PRELIMINARY OPERATIONS

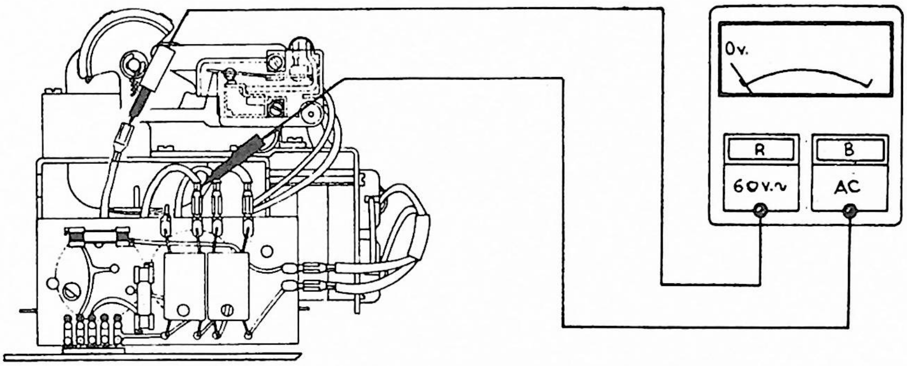
1 - Remove line cord

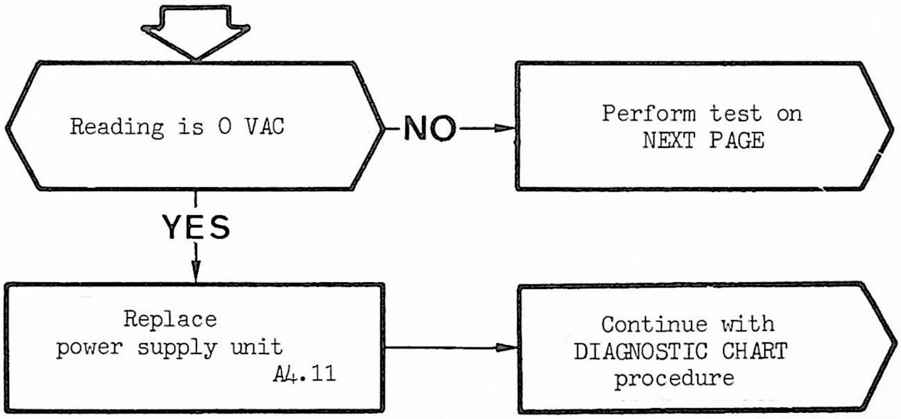
2 - Remove plastic insulators from faston as shown in figure

3 - Insert line cord and turn power switch on

4 - Set VOM for an AC voltage measurement (scale 60V AC)

5 - Perform test as shown in figure




Reading is 0 VAC
NO
Perform test on NEXT PAGE
YES
Replace power supply unit A4.11
Continue with DIAGNOSTIC CHART procedure

TEST 1B2

EFFICIENCY OF CAPACITOR C_2 ON POWER SUPPLY BOARD

PRELIMINARY OPERATIONS

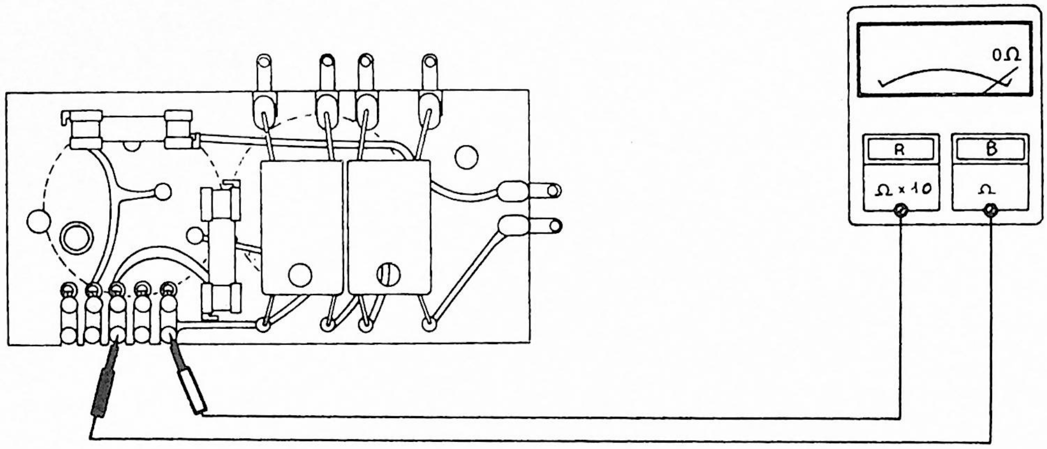
1 - Remove line cord

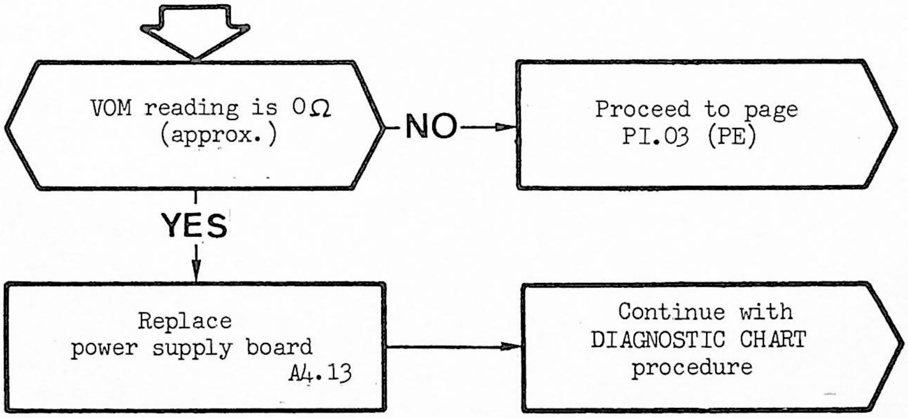
2 - Remove power supply board (A4.13)

3 - Set VOM for a continuity check (scale Ω x 10)

4 - Using a screwdriver, short-circuit fastons indicated by probes

5 - Perform test as shown in figure




VOM reading is 0Ω (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace power supply board A4.13
Continue with DIAGNOSTIC CHART procedure

TEST
1C1

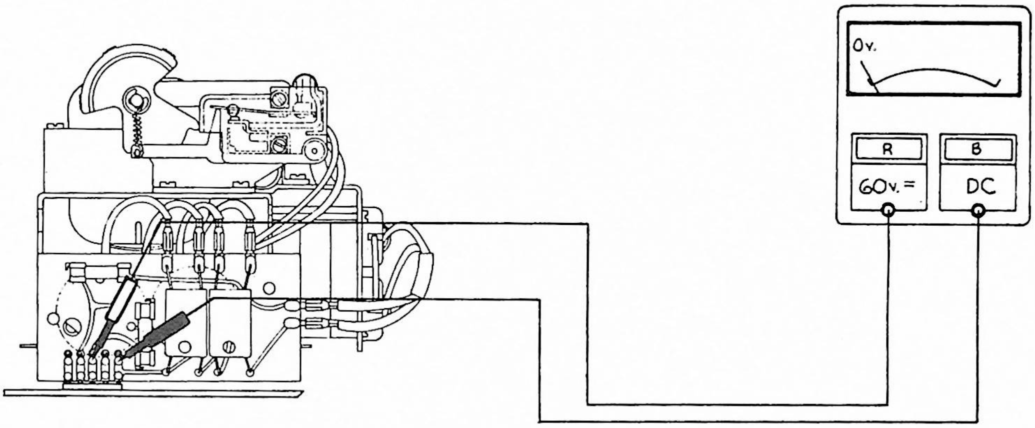
POWER SUPPLY BOARD

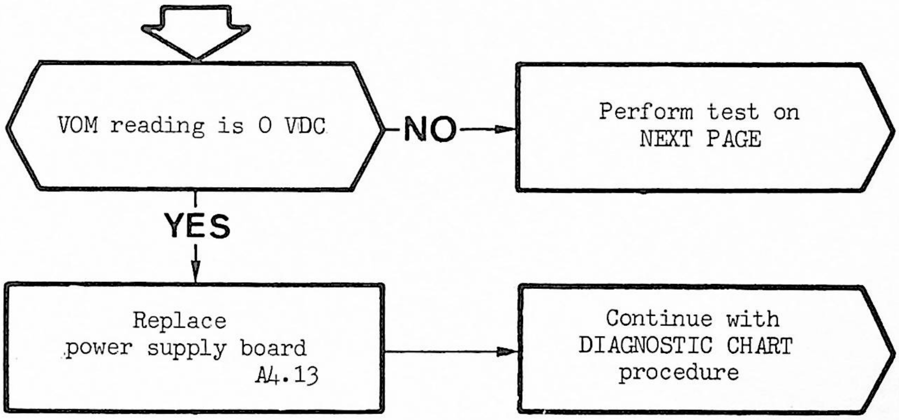
PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on

2 - Set VOM for a DC voltage measurement (scale 60V DC)

3 - Perform test as shown in figure (ensure that fastons shown make good contact)



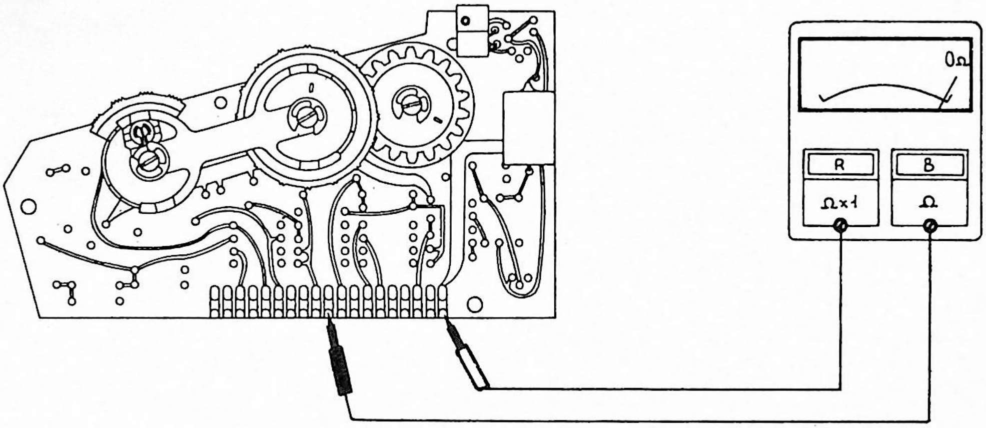

VOM reading is 0 VDC
NO
Perform test on NEXT PAGE
YES
Replace power supply board A4.13
Continue with DIAGNOSTIC CHART procedure

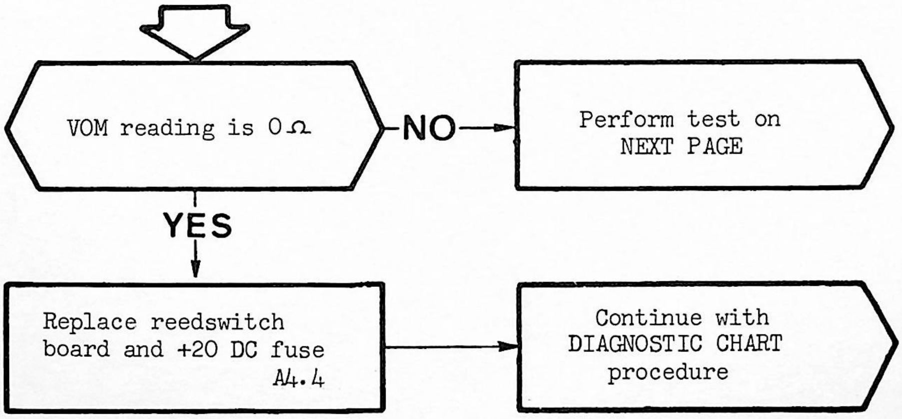
TEST 1C2

REEDSWITCH BOARD

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure





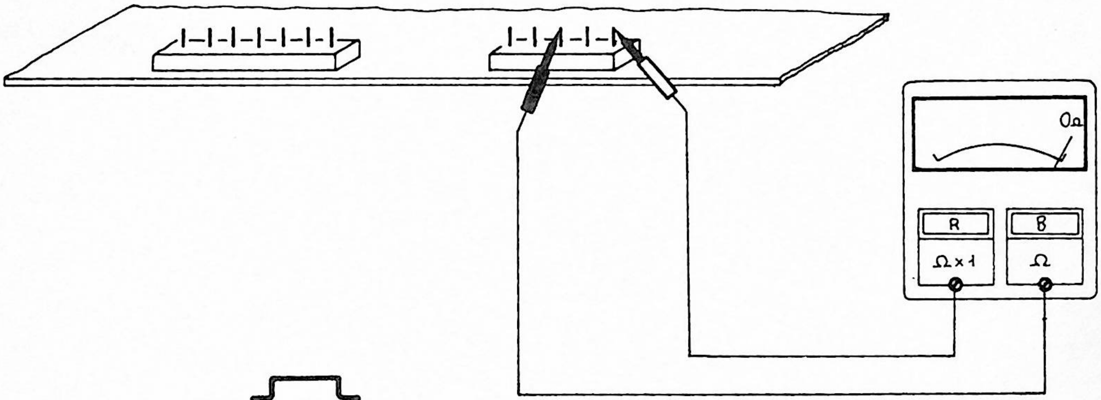
VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board and +20 DC fuse A4.4
Continue with DIAGNOSTIC CHART procedure

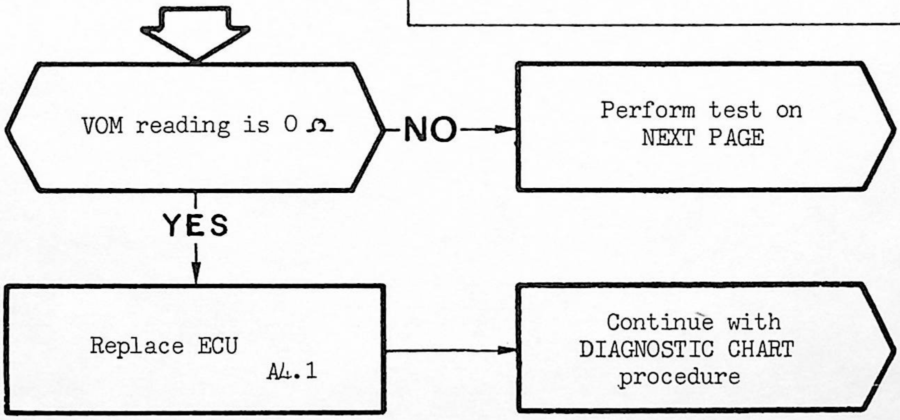
TEST
1C3

ELECTRONIC COMPUTING UNIT (ECU)

PRELIMINARY OPERATIONS

- Remove line cord
- Remove ECU (without fire hammer board) (A4.1)
- Set VOM for a continuity check (scale Ω x 1)
- Perform test as shown in figure



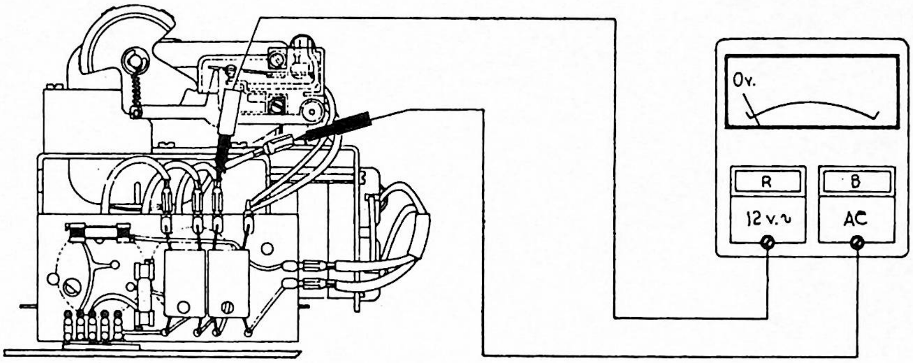

VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace ECU A4.1
Continue with DIAGNOSTIC CHART procedure

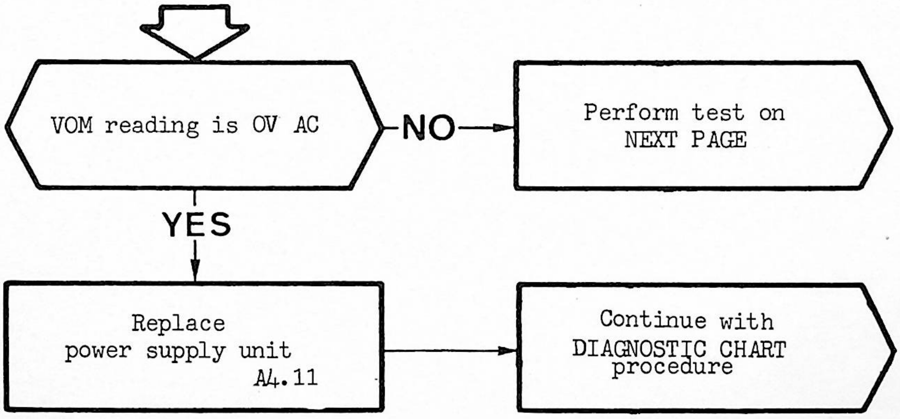
TEST 1D1

+5 VDC WINDING

PRELIMINARY OPERATIONS

1 - Remove plastic insulators from fastons as shown in figure, and disconnect at least one faston
2 - Insert line cord and turn power switch on
3 - Set VOM for an AC voltage measurement (scale 12V AC)
4 - Perform test as shown in figure




VOM reading is 0V AC
NO
Perform test on NEXT PAGE
YES
Replace power supply unit A4.11
Continue with DIAGNOSTIC CHART procedure

TEST 1D2

INDUCTANCE COIL

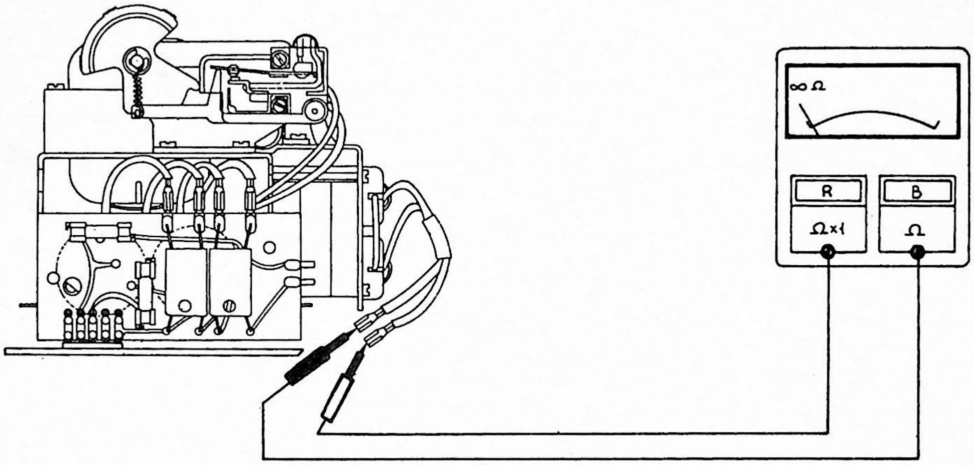
PRELIMINARY OPERATIONS

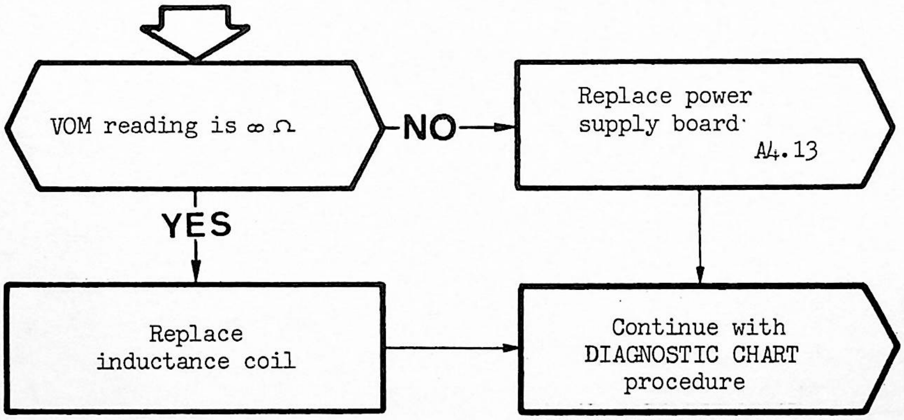
1 - Remove line cord

2 - Remove fastons from power supply board as shown in figure

3 - Set VOM for a continuity check (scale Ω x 1)

4 - Perform test as shown in figure



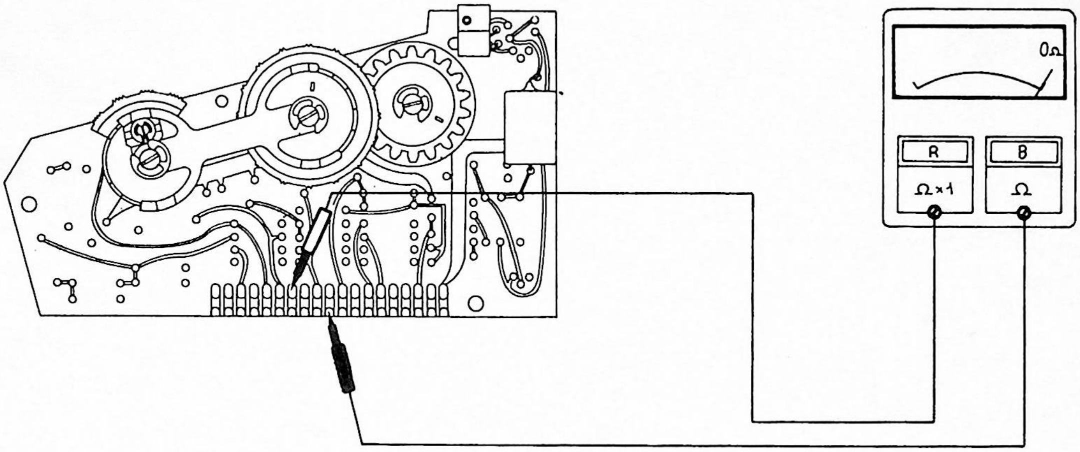

VOM reading is ∞ Ω
NO
YES
Replace power supply board A4.13
Replace inductance coil
Continue with DIAGNOSTIC CHART procedure

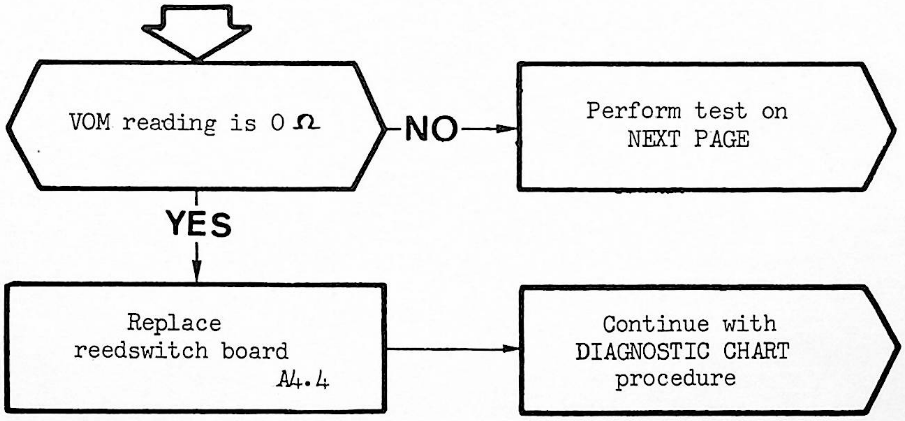
TEST 1E1

REEDSWITCH BOARD

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



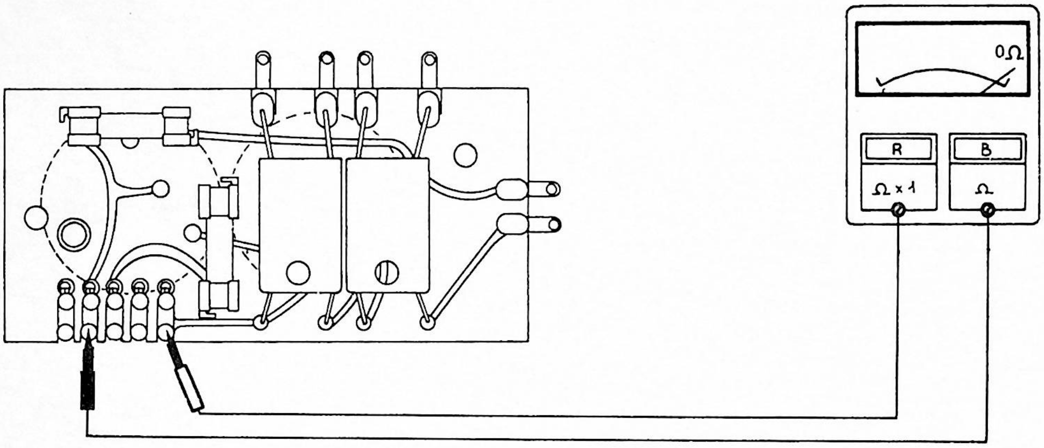

VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
Continue with DIAGNOSTIC CHART procedure

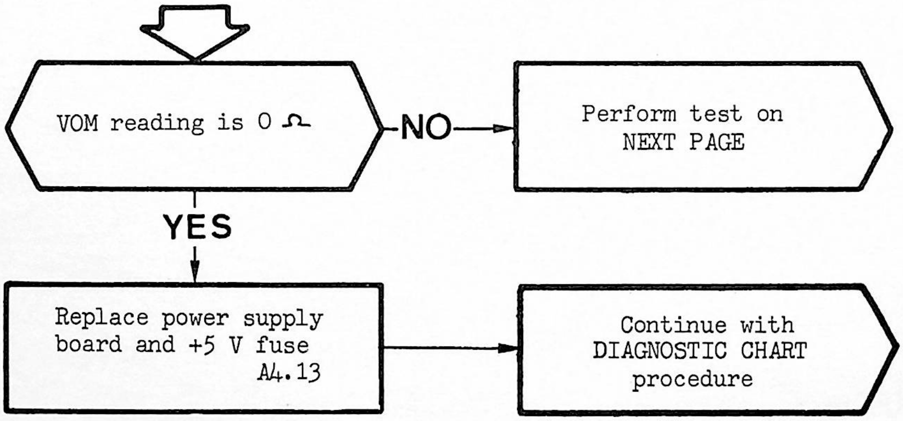
TEST 1E2

EFFICIENCY OF CAPACITOR C_2 ON POWER SUPPLY BOARD

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove power supply board (A4.13)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Using a screwdriver, short-circuit fastons indicated by probes
5 - Perform test as shown in figure




VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace power supply board and +5 V fuse A4.13
Continue with DIAGNOSTIC CHART procedure

TEST 1E3

ELECTRONIC COMPUTING UNIT

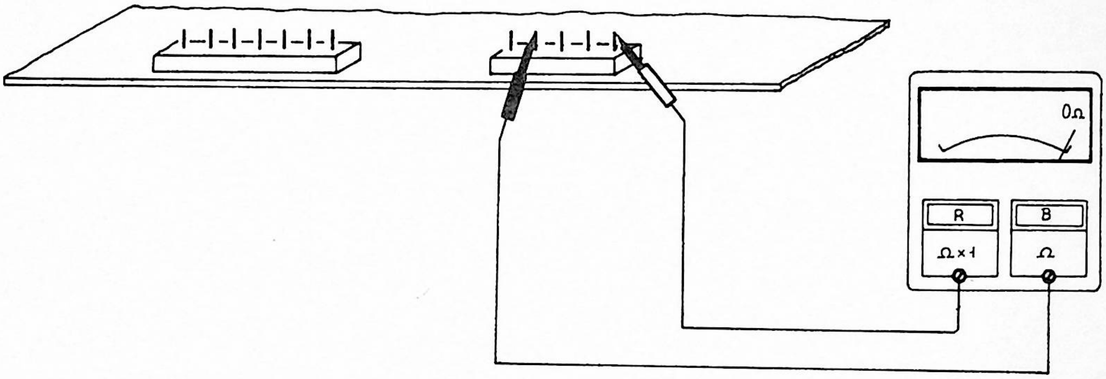
PRELIMINARY OPERATIONS

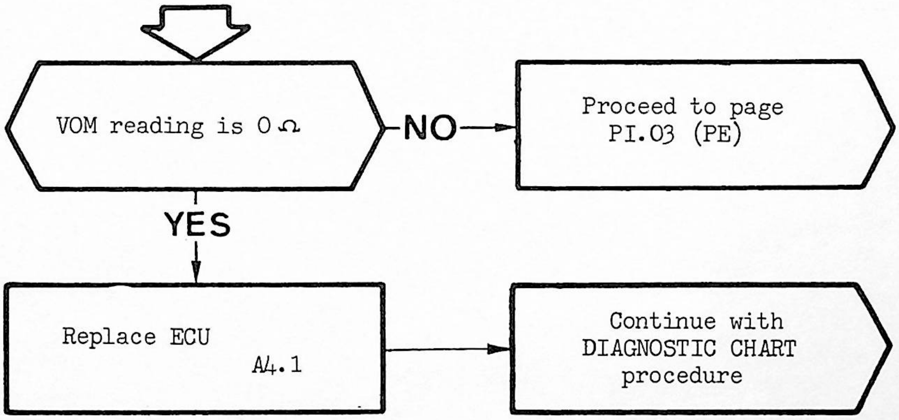
1 - Remove line cord

2 - Remove ECU (without fire hammer board) (A4.1)

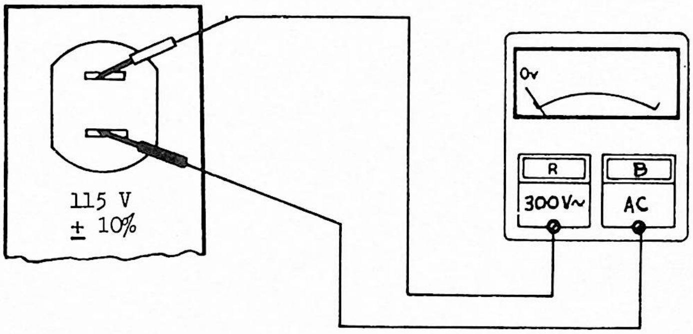
3 - Set VOM for a continuity check (scale Ω x 1)

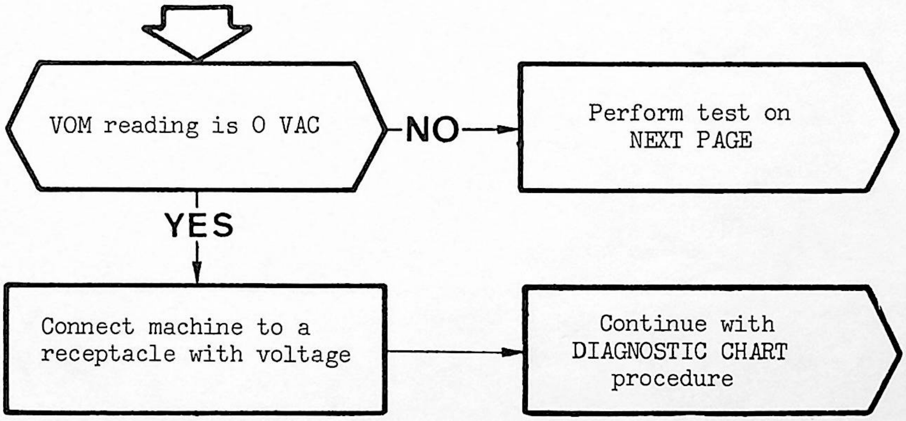
4 - Perform test as shown in figure (this shows contacts that go to power supply)




VOM reading is 0 Ω
NO
Proceed to page PI.03 (PE)
YES
Replace ECU A4.1
Continue with DIAGNOSTIC CHART procedure

TEST **1F1**	AC VOLTAGE
PRELIMINARY OPERATIONS	1 - Remove line cord from wall socket 2 - Set VOM for an AC voltage measurement (scale 300V AC) 3 - Perform test as shown in figure



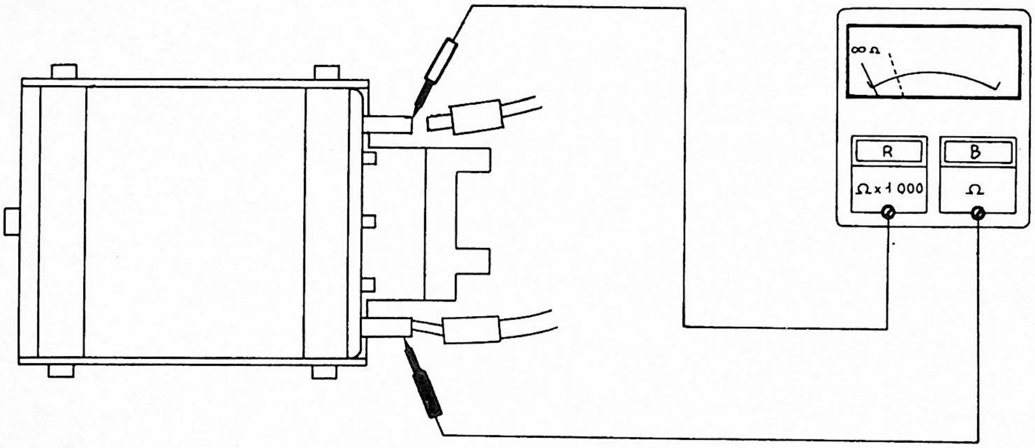

VOM reading is 0 VAC
NO
Perform test on NEXT PAGE
YES
Connect machine to a receptacle with voltage
Continue with DIAGNOSTIC CHART procedure

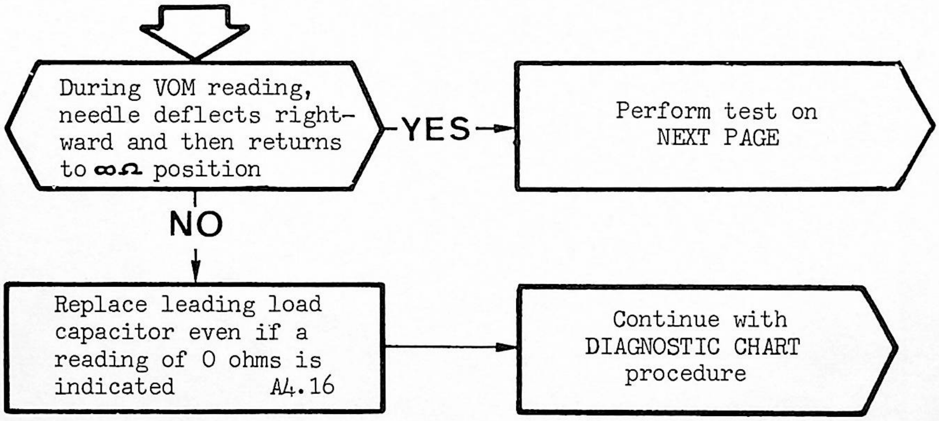
TEST 1F2

LEADING LOAD CAPACITOR

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove leading load capacitor from power supply unit (A4.16)
3 - Unsolder one of the wires and raise plastic insulator of second wire
4 - Set VOM for a continuity check (scale Ω x 1000); rotate OHM adjust control on VOM fully to right
5 - With a screwdriver, for an instant, short the two ends of the capacitor
6 - Perform test as shown in figure





During VOM reading, needle deflects rightward and then returns to ∞Ω position

YES → Perform test on NEXT PAGE

NO ↓

Replace leading load capacitor even if a reading of 0 ohms is indicated A4.16

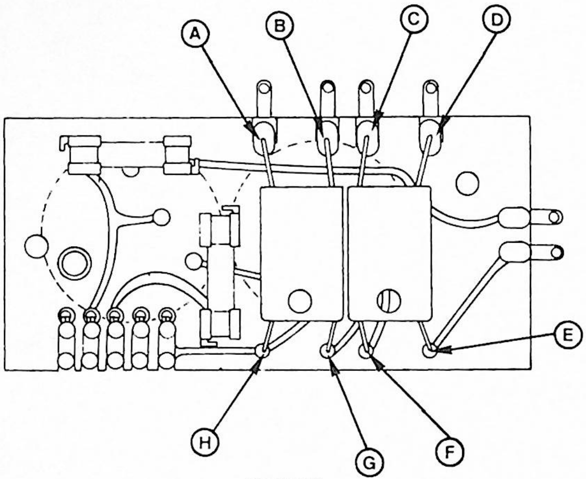
→ Continue with DIAGNOSTIC CHART procedure

TEST
1F3

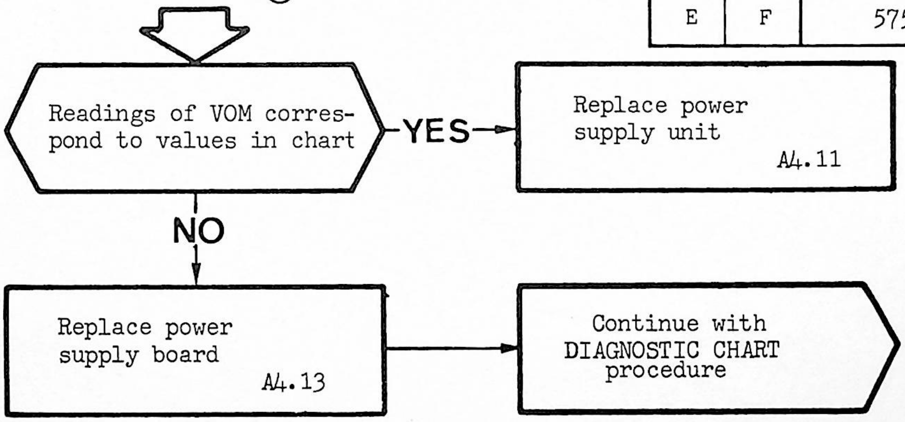
EFFICIENCY OF RECTIFIER BRIDGES +20 AND +5 V (SHORT CIRCUIT TEST)

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove power supply board (A4.13)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing readings of VOM with values in chart



PROBES		READINGS (Ω) (Approx.)
RED	BLACK	
B	H	150
G	B	150
G	A	150
A	H	150
D	F	150
E	D	150
E	C	150
E	F	575



Readings of VOM correspond to values in chart
YES
Replace power supply unit
A4.11
NO
Replace power supply board
A4.13
Continue with DIAGNOSTIC CHART procedure

FINAL CHECKS

The purpose of the Final Checks is to help the technician in a further visual inspection of the malfunction.

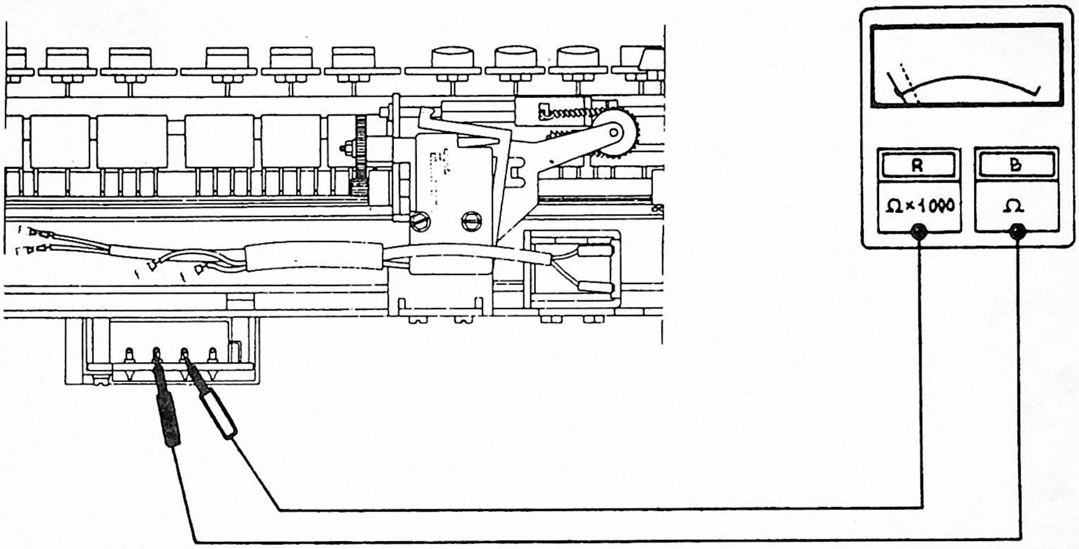
These checks are used whenever the mechanical checks of the PE (Emergency Procedures) are ineffective.

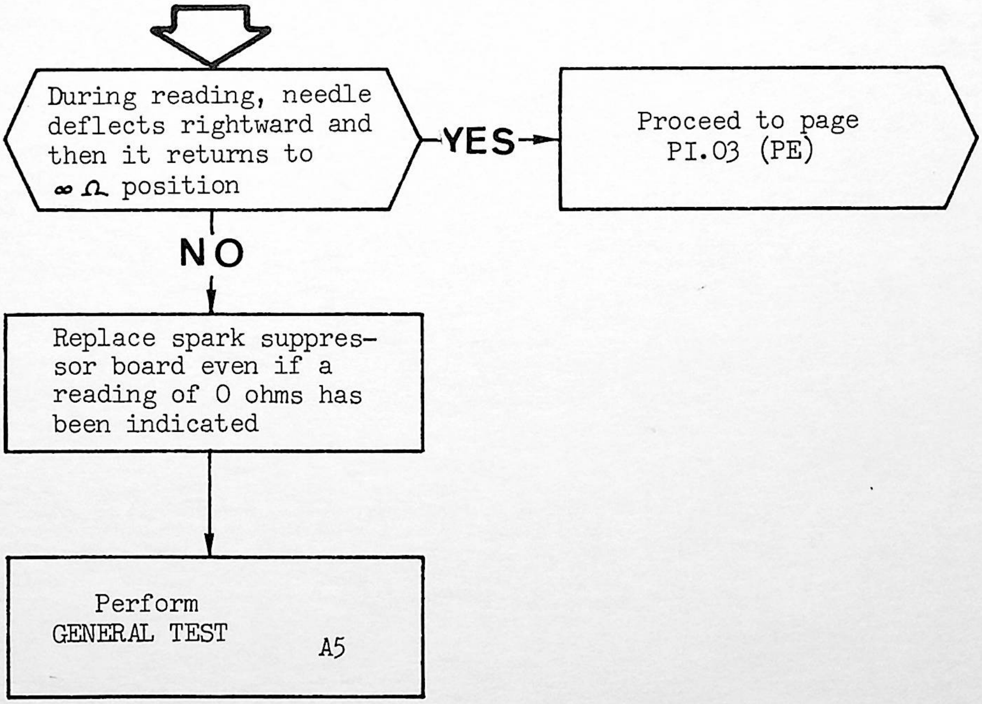
The Final Checks section includes a number of checks regarding the interface. They are left to the technician's own discretion and he shall perform these checks on the part of the interface he thinks contains the malfunction.

A further check, the spark suppressor check, has been added to the Final Check section.

EFFICIENCY CHECK OF THE SPARK SUPPRESSOR BOARD

- Remove line cord
- Remove keyboard unit
- Set VOM for a continuity check (scale Ω x 1000)
- Using a pair of tweezers, momentarily short the contacts shown connected to the red and black probes of VOM
- Perform test as shown in figure





During reading, needle deflects rightward and then it returns to ∞ Ω position

Proceed to page PI.03 (PE)

Replace spark suppressor board even if a reading of 0 ohms has been indicated

Perform GENERAL TEST A5

FILLING IN THE SERVICE REPORT FORM

③
In case you find no malfunction, inform the operator. Fill out the service report.

Operator Checkout Procedure

1) Ensure that voltage supply does not fluctuate.

2) Ensure that operator has not made any errors and had correctly followed instructions according to the machine performances.

3) Ensure that operator is not using the machine too fast.

Note:

When the machine is checked out in the workshop and no malfunction is found, run the machine through an intensive testing program. If a malfunction becomes evident during the testing program, carry out the workshop procedures on individual machine components.

A1

MALFUNCTION CODING

1st LETTER - LIGHTS			
Code		Green	Red
A	a	Off	Off
B	b	Off	On
C	c	On	Off
D	d	On	On
E	e	Dim	Dim

2nd LETTER - KEYBOARD		
Code		Condition
F	f	Keyboard is free
G	g	Keyboard is locked without depressing RESET Key
J	j	Keyboard is locked after RESET Key is depressed

1 | 2 | 3 | 4 ← MALFUNCTION CODE

3rd LETTER - CARRIAGE AND LINE SPACE		
Code		Condition
H	h	The carriage did not move and no line spacing has taken place.
L	l	The carriage advances as in a normal print operation, then goes back to rest position and stops; one line space is carried out
N	n	The carriage starts, advances and stops at end of line
P	p	The carriage starts as in a normal print operation, but once it is back at rest position it starts again for another print
X	x	Both carriage and line space are operating correctly
Z	z	The paper is not released
W	w	The line space is not performed correctly

4th LETTER - PRINT		
Code		Condition
Q	q	Nothing is printed
R	r	The print is correct
T	t	Wrong print in both the numeric and instruction part
V	v	Wrong numeric print
S	s	Wrong print in both the instruction and address

As can be seen in the illustration above, a malfunction code is made up of four letters. Each letter corresponds to one of four groups and can be represented by a capital letter or small letter. A capital letter signifies an abnormal machine condition and a small letter signifies a normal machine condition.

Now, let us assume that you are at a customer's office and you observe a machine which has the following conditions:

- Green light ON
- Red light OFF
- The keyboard is free
- The machine prints normally except that the answer is wrong; for
  example: 12#
  12X
  198T

After observing the condition of the machine, you can see that the only abnormal condition is the incorrect answer (198T). By using the chart above we are able to establish the code cfxV, which reflects the condition of the machine. If you turn to page A1.05, you will see code cfxV listed to the left of the various machine conditions. Also note that the Probable Causes and Exits to be considered when repairing the machines are listed in the last two columns.

NOTE: If a zero (0) is present in the malfunction code, it is to be interpreted to mean that no coding is necessary for specific code areas; for example:

Code CF00 has a zero located in the 3rd and 4th position. This means that the carriage line space and print conditions of the machine are not to be considered as possible symptoms.

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
Bg00	Red light ON Green light OFF	Locked				- Reedswitch board	B2003
Eg00	BOTH lights are dim	Locked				- Power supply board - Reedswitch board - Leading load capacitor - Fire hammer board	B1002
Ag00	Red light OFF Green light OFF (before reset)	Locked				- Lack of AC voltages - Power switch always open - Mains filter cut out - Power supply board - Power supply unit - Fire hammer board	FIXED CHECKS (A1)
Df00	Red light ON Green light ON (after reset)	Free				- Electronic computer unit - Reedswitch board	F
	Red light ON Green light ON (during entry)	Free				- The cycle does not stop	A3.33
Cg00	Red light OFF Green light ON (before reset)	Locked				- Reedswitch board - Power supply board - Fire hammer board	FIXED CHECKS (A1) B
						- The AK reedswitch screen does not return between the reedswitch and magnet	A3.38 - A3.40

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
DJHQ (L245) DJOO (L270)	Red light ON Green light ON	Locked (after reset)	Carriage did not move and no linespace is performed (L245)	Nothing is printed (L245)		- Motor winding - Motor start capacitor - Short circuits on motor supply system	E
						- Reedswitch board - Permanent magnets board - Electronic computer unit	F
						- Clutch is not released - Time switch contacts do not close - Code is set up in wrong way - AK plate is not engaged - AK plate is not released - Coding bar positioner is not removed	A3.26 A3.28 A3.31, A3.32 A3.40 A3.38 A3.35, A3.37
	As above	Reset key cannot be depressed	As above	As above		- Restoring bail is not in restored position - Reset position of setting bails is not as prescribed - Front setting bail is not released	A3.33 A3.31, A3.32 A3.40
	As above	Locked (after reset)	As above	As above	It repeats cycles when machine is switched on	- Code bars are not restored	A3.33
CFOO	Red light OFF Green light ON	Free (when power switch has been turned on or during processing)				- Electronic computer unit - Reedswitch board	C
						- Keyboard locking bail is not released - Clutch does not release	A3.44 A3.33
oJXr (L245) oJOO (L270)	Red light OFF Green light ON	Locked	Carriage and line space operate correctly	It prints correctly (L245)		- Reedswitch board - Fire hammer board - Electronic computer unit	G
						- Keyboard locking bail is not activated - AK reedswitch does not return between reedswitch and magnet - AW microswitch plunger does not move to right - Front setting bail is not released	A3.44 A3.31, A3.32, A3.38 A3.18 A3.40
oFOO	Red light OFF Green light ON	Free (after a double key depression)				- Incorrect rest position of setting bails - Locking bridge does not move in front of setting bail	A3.31, A3.32 A3.40

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
cfLQ	Red light OFF Green light ON	Free	The carriage advances as in a normal print operation, goes back to rest and stops.	Nothing is printed		- Fire hammer board	L (L270) K (L245)
						- Insufficient print hammer movement - Ribbon feed - Incorrect strobe pulses	A3.22, A3.23 A3.54 A3.13, A3.16, A3.17
cJHQ	Red light OFF Green light ON	Locked	The carriage has not moved and no line space is performed	Nothing is printed		- Microswitch AW - Carriage engagement (VRC) solenoid - Fire hammer board - Magnet roll holder	I (L270) K (L245)
						- Coding bars did not restore - Clutch did not release - AK reedswitch did not return between reedswitch and magnet - Carriage engagement controlling bridge did not position on print cam - Carriage movement rack did not engage worm gear - AW microswitch plunger did not move to right	A3.33 A3.31, A3.32 A3.38 A3.8, A3.10 A3.12 A3.18
cfxS	Red light OFF Green light ON	Free	The carriage operates correctly	Address or instruction are printed in the wrong way	It prints during entry	- Reedswitch board - Magnet roll holder	P (L270) P*(L245)
	As above	As above	As above	As above	It prints during entry	- Code is entered in the wrong way	A3.31, A3.32
	As above	As above	As above	As above	The sign "CONSTANT" is not printed when constant key and compatible operation key is depressed	- Screen AE is not removed	
	As above	As above	As above	As above	It prints the sign "CONSTANT" when not required	- Screen AE did not return between reedswitch and magnet	

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
oJNQ	Red light OFF Green light ON	Locked	Carriage starts, advances and stops at end of travel	Nothing is printed		- Microswitch AW - Strobe pickup coil - Fire hammer board - Mechanical adjustments of carriage start - AW microswitch control lever is not removed - AW microswitch plunger does not move to right - Incorrect position at AW microswitch - Incorrect strobe pulses	M (L270) K (L245) A3.18 A3.18 A3.18 A3.13, A3.16, A3.17
oJFr (L245)	Red light OFF Green light ON	Locked	Carriage starts as in a normal print but, once it is back to rest, it starts again for a successive print	It prints correctly		- Reedswitch board - AK plate is not released - AK screen is not positioned between reedswitch and magnet	K A3.40 A3.38
doWR (L245)	Red light ON Green light ON		It performs continuous line spaces	It prints when power switch is turned ON		- Cycle did not stop (reset) - AK control plate did not release - AK screen did not move between reedswitch and magnet	A3.33 A3.40 A3.38
cGOO	Red light OFF Green light ON	Locked (as a consequence of double key depression)			Depressing clear key (L245) Depressing KB REL key (L270)	- Clutch did not release - Front setting bail did not release - Front setting bail did not release	A3.26 A3.40 A3.40
CFNO	Red light OFF Green light ON	Locked	Carriage is to the left or along the character drum			- Carriage engagement controlling bridge did not disengage - AW microswitch plunger did not move to right - AW microswitch control lever did not disengage - Carriage movement rack did not disengage from worm gear - Carriage did not return	 A3.18 A3.18 A3.12 A3.12
cFOO	Red light OFF Green light ON	Not locked (due to double key depression)				- Locking bridge did not engage front setting bail	A3.40

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
cfxV	Red lights OFF Green light ON	Free	Carriage operates correctly	Numeric print is wrong		- Reedswitch board - Round off selector contacts	V, Q, R, S
	As above	As above	As above	As above	Machine prints more digits than were entered	- Cycle does not stop	A3.33
	As above	As above	As above	As above	Although some characters are missing, the print is neat	- Clutch did not engage	A3.26
cfxT	Red light OFF Green light ON	Free	Carriage operates correctly	Both numeric and instruction printouts are wrong		- Reedswitch board	O (L270) V (L245)
	As above	As above	As above	As above	Machine prints signs or digits different from the ones entered	- Code is set up in the wrong way - Incorrect strobe pulses - Coding bar positioner was not removed	A3.31, A3.32 A3.13, A3.16, A3.17 A3.35, A3.37
	As above	As above	As above	As above	Print is illegible	- Insufficient print hammer movement - Carriage did not advance - Incorrect strobe pulses	A3.22, A3.23 A3.13, A3.15 A3.13, A3.16, A3.17
	As above	As above	As above	As above	Some characters are missing, unevenly aligned or printed	- Fire hammer did not return to rest - Incorrect strobe pulses	A3.22 A3.13, A3.16, A3.17
	As above	As above	As above	As above	Light print	- Light print hammer stroke - Ribbon did not feed	A3.22 A3.23 A3.54
	As above	As above	As above	As above	Characters missing on top or on bottom	- Incorrect strobe pulses - Impression control	A3.13, A3.16, A3.17 A3.22, A3.23
	As above	As above	As above	As above	Printout is shifted by one column	- Incorrect position of AW microswitch	A3.18
ofHQ (L270)	Red light OFF Green light ON	Free	Carriage did not move and no line space was carried out	Nothing was printed		- Reedswitch board or power supply board	I
cfxV	Red light OFF Green light ON	Free			Depression of clear key did not clear entry	- Clutch did not release - Code was set up in the wrong way	A3.26 A3.31, A3.32

CODE	LIGHTS	KEYBOARD	CARRIAGE AND LINE SPACE	PRINTOUT	NOTE	PROBABLE CAUSES	EXIT
cfWT	Red light OFF Green light ON	Free	Machine did not perform the line space	Prints are superimposed		- Pawl feed did not operate	A3.48
						- Feed rollers did not function	
cfwr	Red light OFF Green light ON		After one print cycle, it performs a series of line spaces			- Carriage engagement control bridge did not release	
DOOO	Red light ON Green light ON				Motor turns although power switch is OFF	- Power switch contacts did not open	Power switch
DfOO	Red light goes ON during keyboard entry Green light ON	Free				- Machine cycle did not stop	A3.33
OOZO			Paper is not released		Paper release lever	- Pressure rollers did not work	
cOWO	Green light ON		It does not perform the line space		Line space control lever	- Pressure roller detent did not release	A3.8
						- Carriage engagement controlling bridge did not position on the print cam	
						- Feed pawl did not work	A3.48
						- Carriage engagement controlling bridge did not disengage	
						- Line space detent did not trip	A3.8

A2

SPARE PARTS LIST

EXIT **A**	MOTOR KEEPS RUNNING
MECHANICAL CHECKS	- Adjustment of TIME SWITCH = A3.28 - Adjustment of the closing of manual line space microswitch A3.52

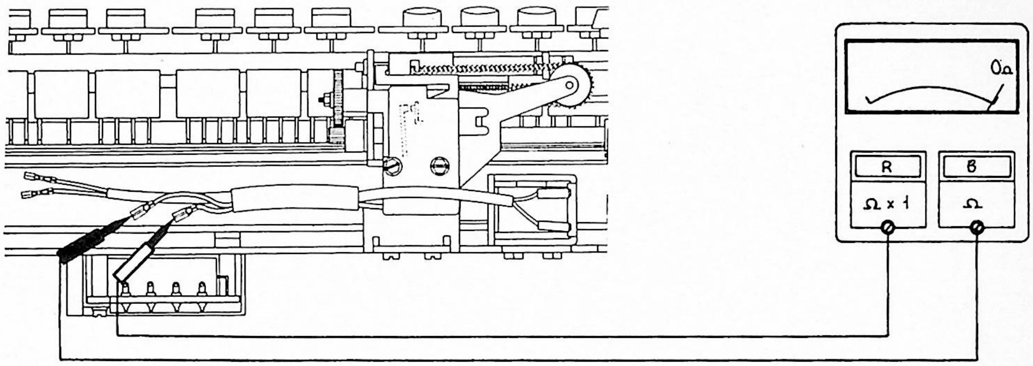
PERFORM TEST ON NEXT PAGE

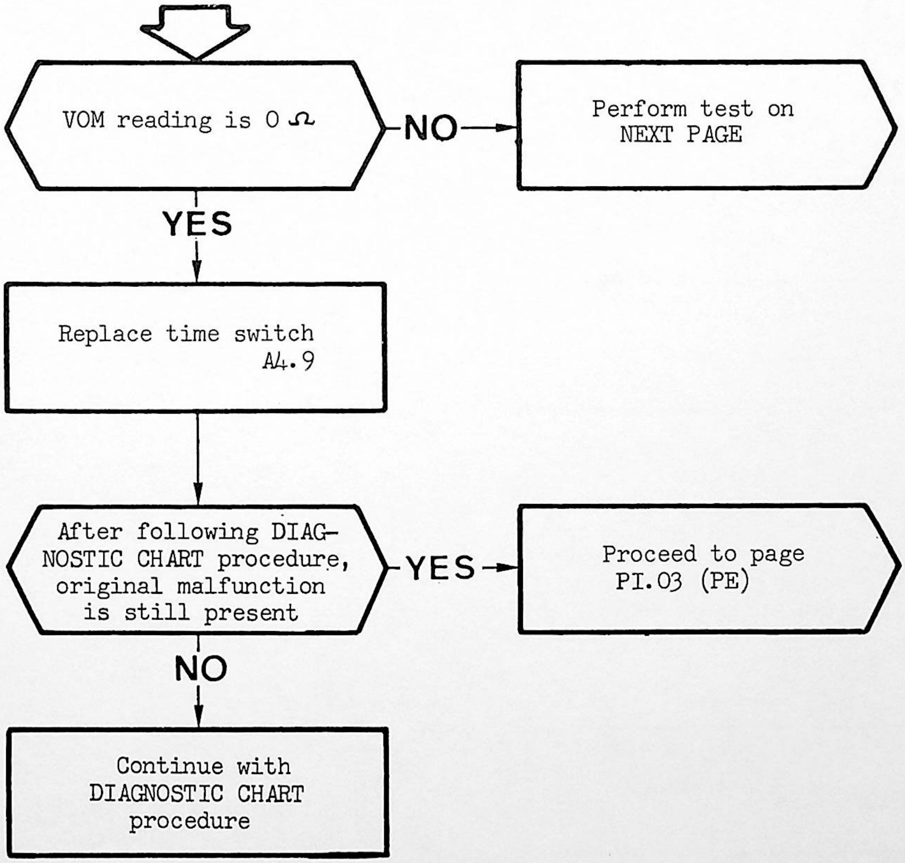
TEST A0007

TIME SWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove keyboard (A4.3)
3 - Remove fastons of time switch
4 - Set VOM for a continuity check (scale Ω x 1)
5 - Check time switch efficiency as indicated in figure



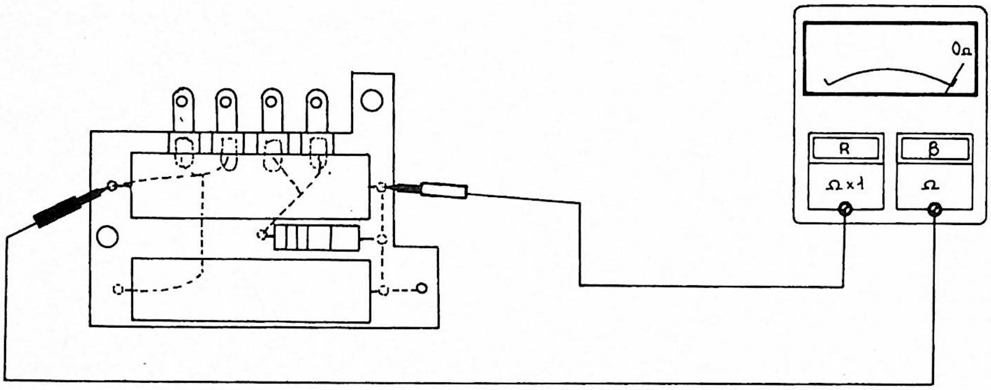

VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace time switch A4.9
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

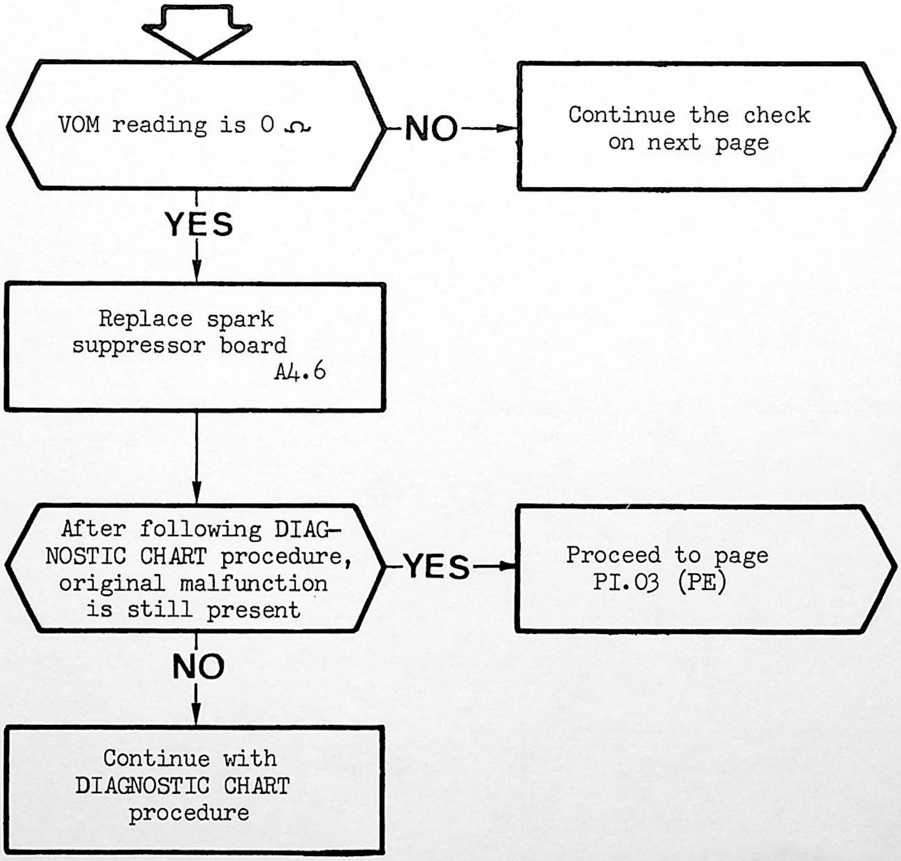
TEST A0016

SPARK SUPPRESSOR BOARD CAPACITORS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove keyboard (A4.3)
3 - Remove spark suppressor board
4 - Set VOM for a continuity check (scale Ω x 1)
5 - Perform test as shown in figure



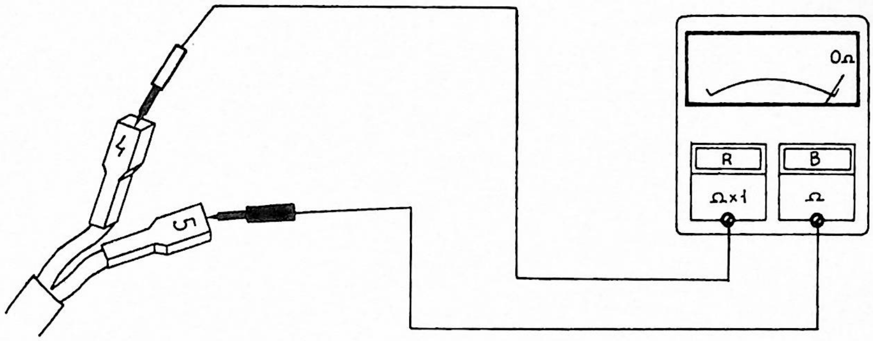

VOM reading is 0 Ω
NO
Continue the check on next page
YES
Replace spark suppressor board A4.6
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

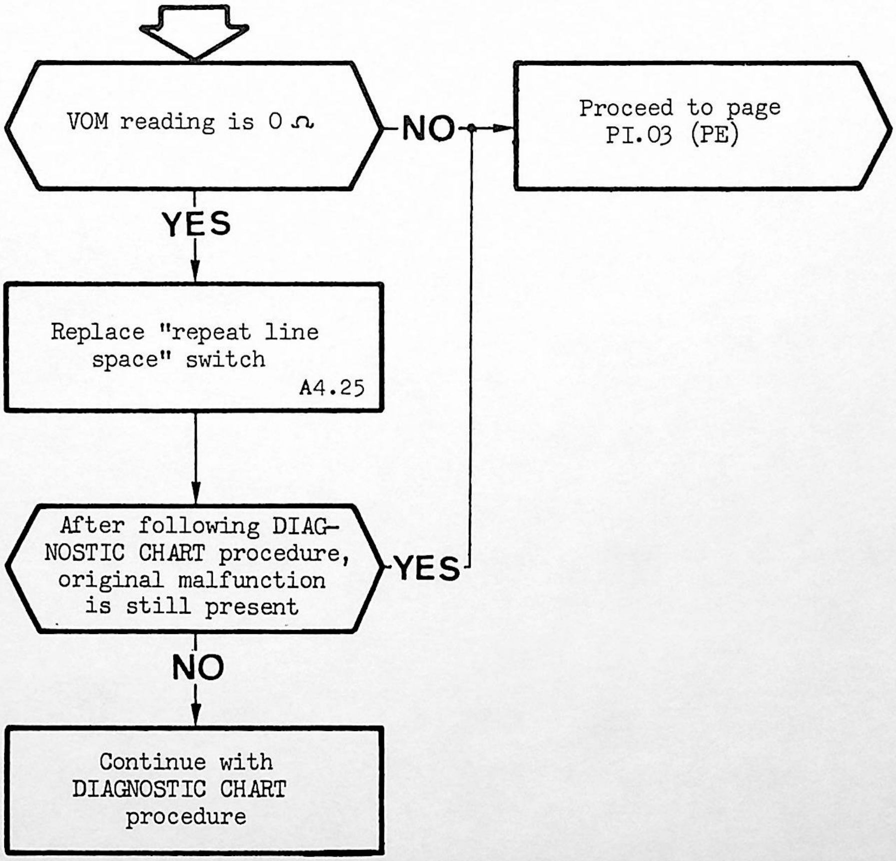
TEST A1008

"REPEAT LINE SPACE" SWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove fastons 4 and 5 from distribution plate
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



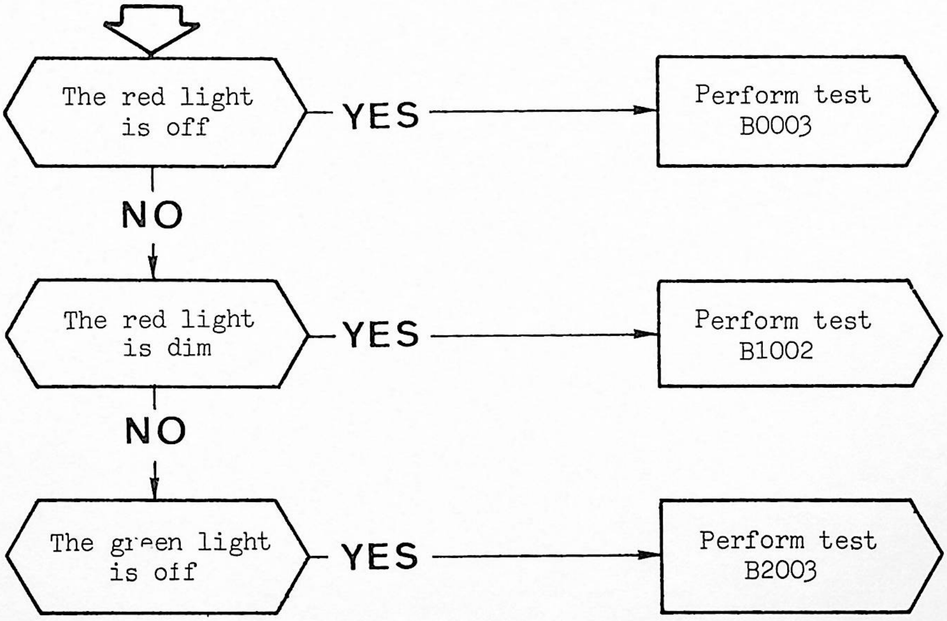

VOM reading is 0 Ω
NO
Proceed to page PI.03 (PE)
YES
Replace "repeat line space" switch
A4.25
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
Continue with DIAGNOSTIC CHART procedure

EXIT B

LIGHTS ARE NOT CORRECTLY ON

MECHANICAL CHECKS

- Adjustments of the angular position of AK reedswitch screen AK = A3.38

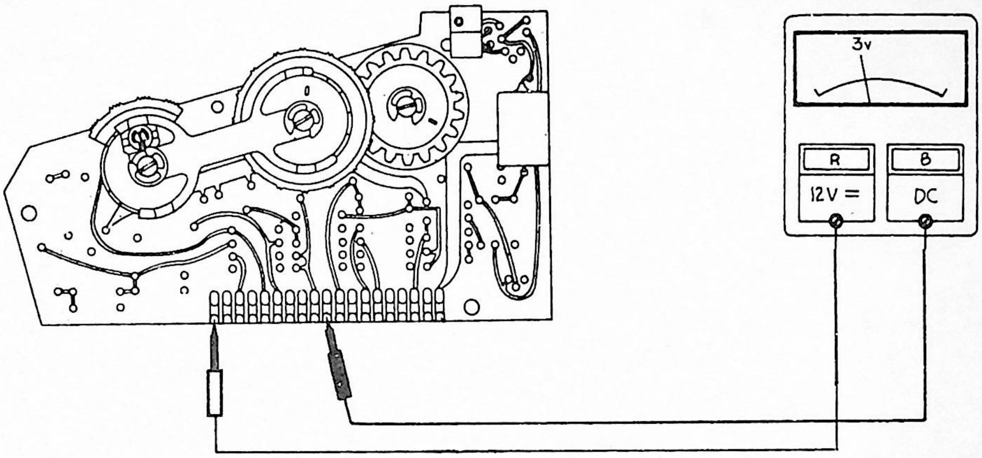


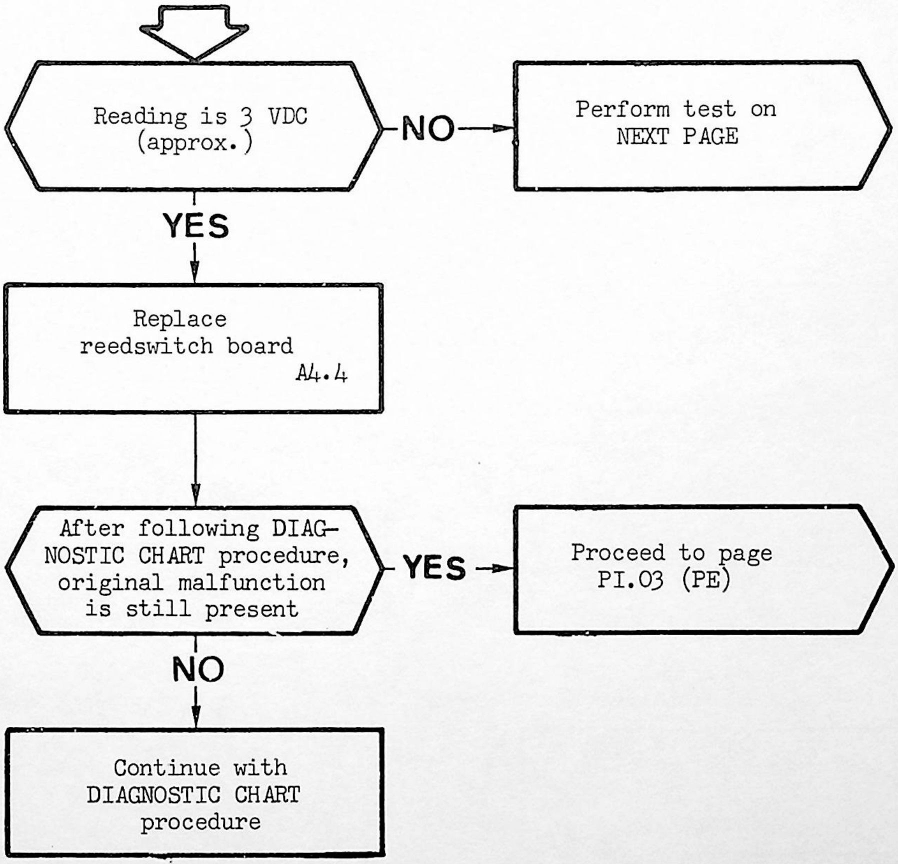
TEST B0003

AK REEDSWITCH

PRELIMINARY OPERATIONS

1 - Ensure that AK reedswitch screen covers MAGNET ROLL (A7.1)
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Insert line cord and turn power switch on
4 - Perform test as shown in figure



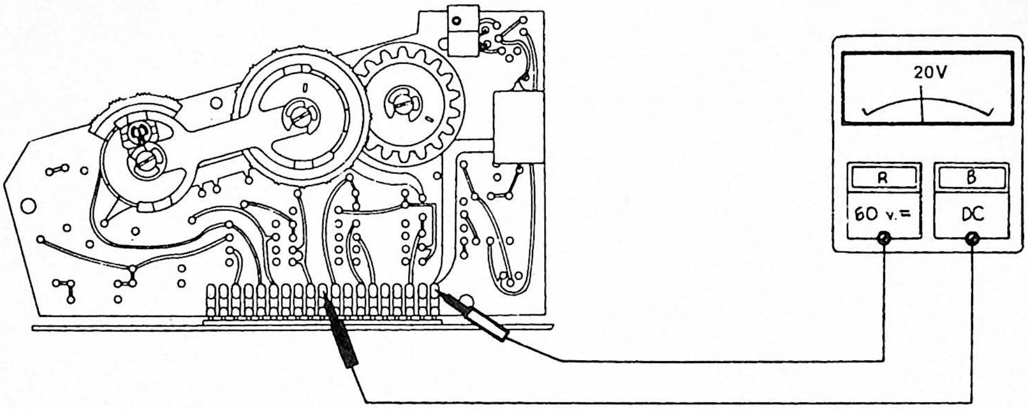

Reading is 3 VDC (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

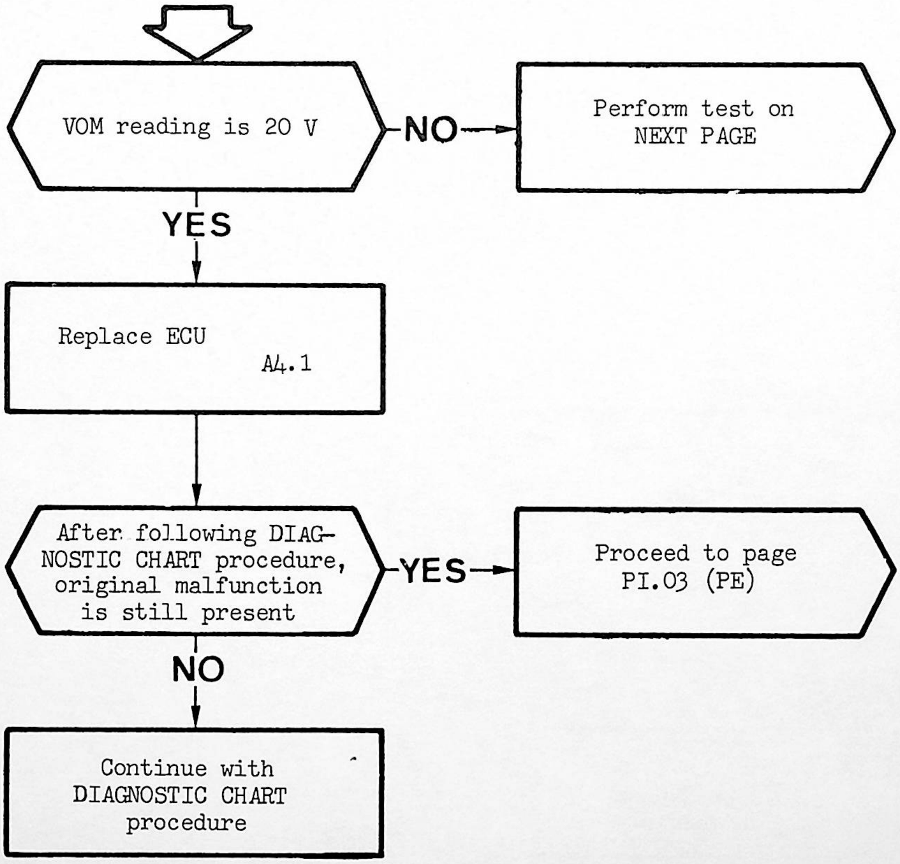
TEST B0012

PRESENCE OF +20 VDC ON REEDSWITCH BOARD

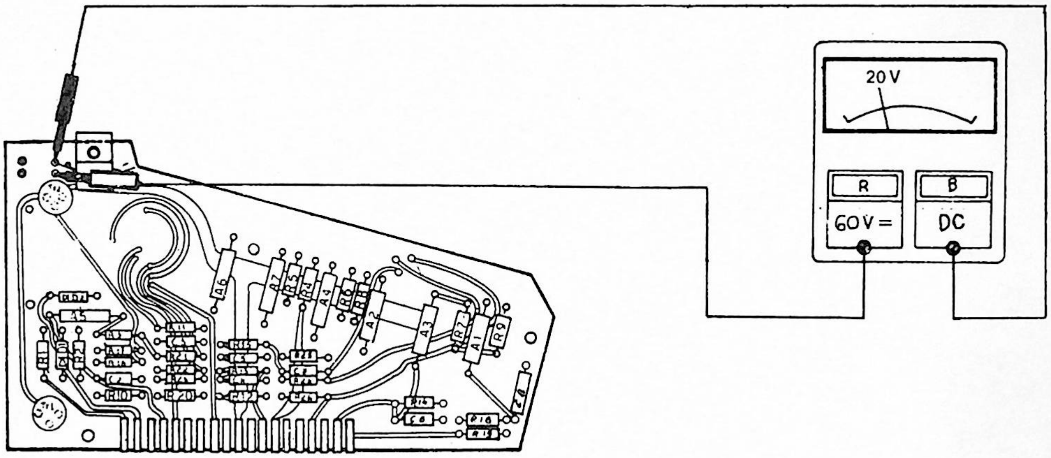
PRELIMINARY OPERATIONS

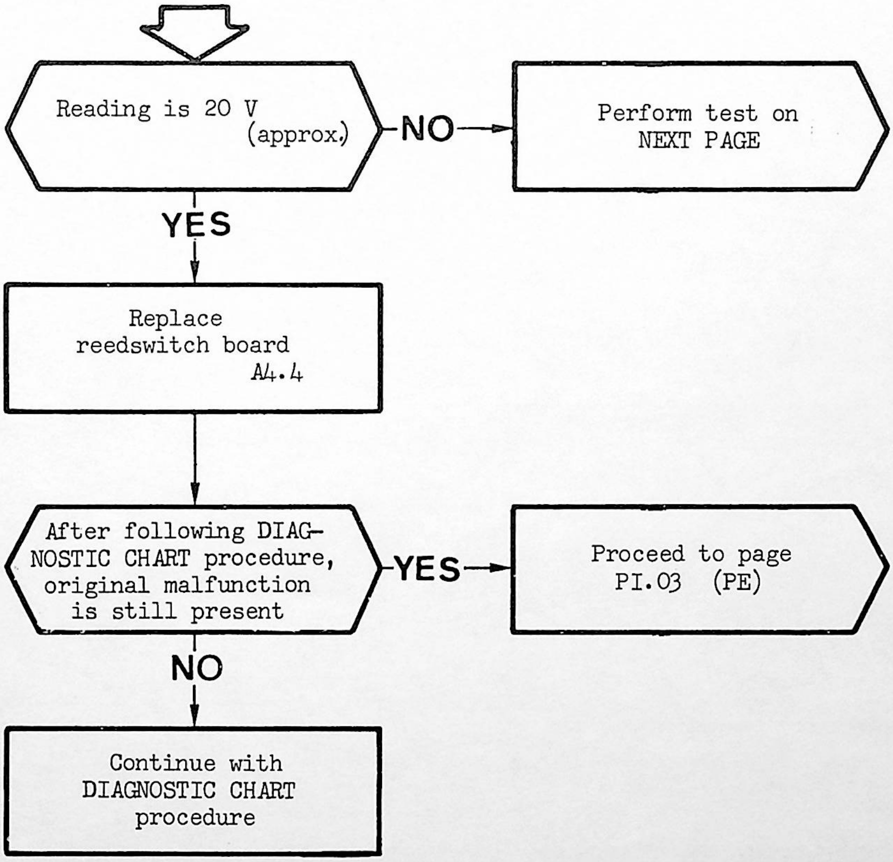
1 - Insert line cord and turn power switch on
2 - Set VOM for a DC measurement (scale 60V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)




VOM reading is 20 V
NO
Perform test on NEXT PAGE
YES
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST B0023	RED LIGHT
PRELIMINARY OPERATIONS	1 - Insert line cord and turn machine on 2 - Set VOM for DC voltage measurement (scale 60V DC) 3 - Perform test as shown in figure (do not depress reset key)




Reading is 20 V (approx.)

NO → Perform test on NEXT PAGE

YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

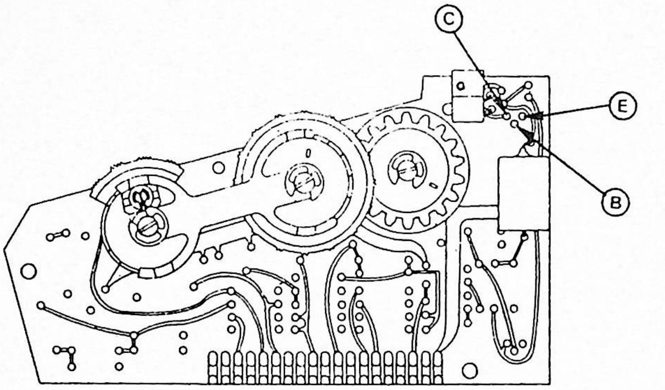
NO → Continue with DIAGNOSTIC CHART procedure

TEST B0033

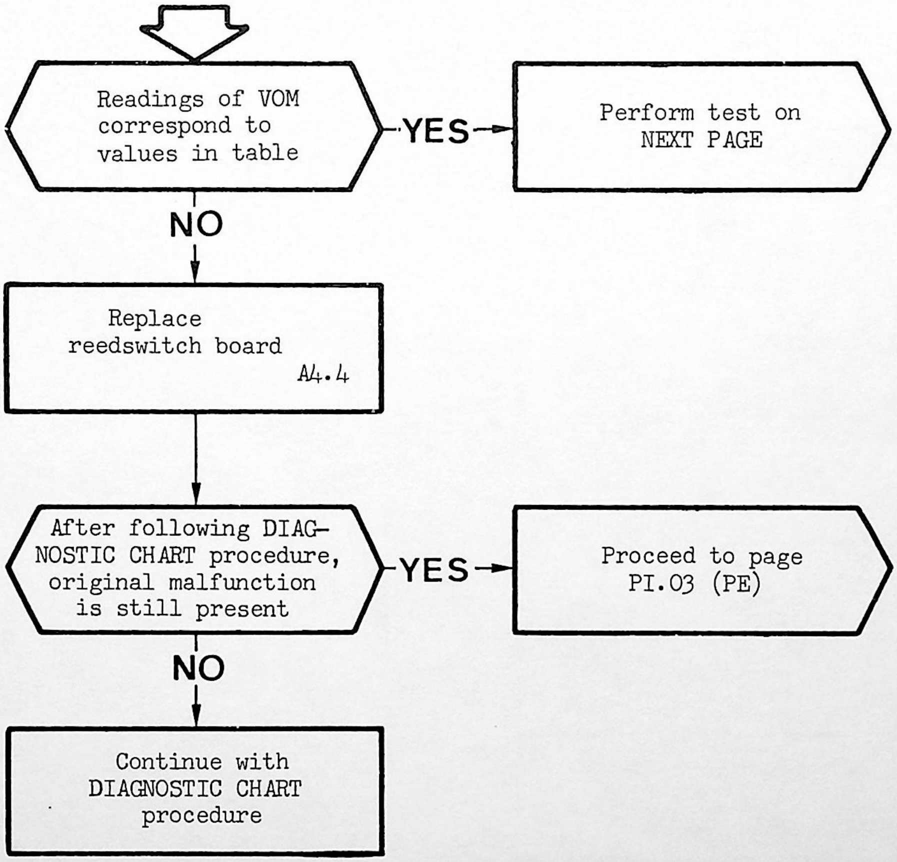
SPECIAL CIRCUIT

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing readings of VOM with values in the table



PROBES		READINGS (Ω) (approx.)
RED	BLACK	
B	C	1K
B	E	1K
C	E	150
C	B	150
E	B	150
E	C	200



Readings of VOM correspond to values in table

YES → Perform test on NEXT PAGE

NO ↓

Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

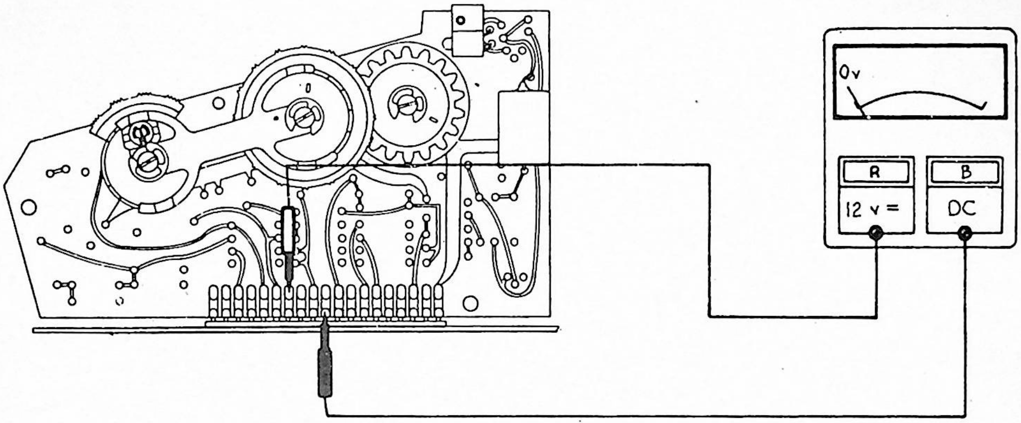
Continue with DIAGNOSTIC CHART procedure

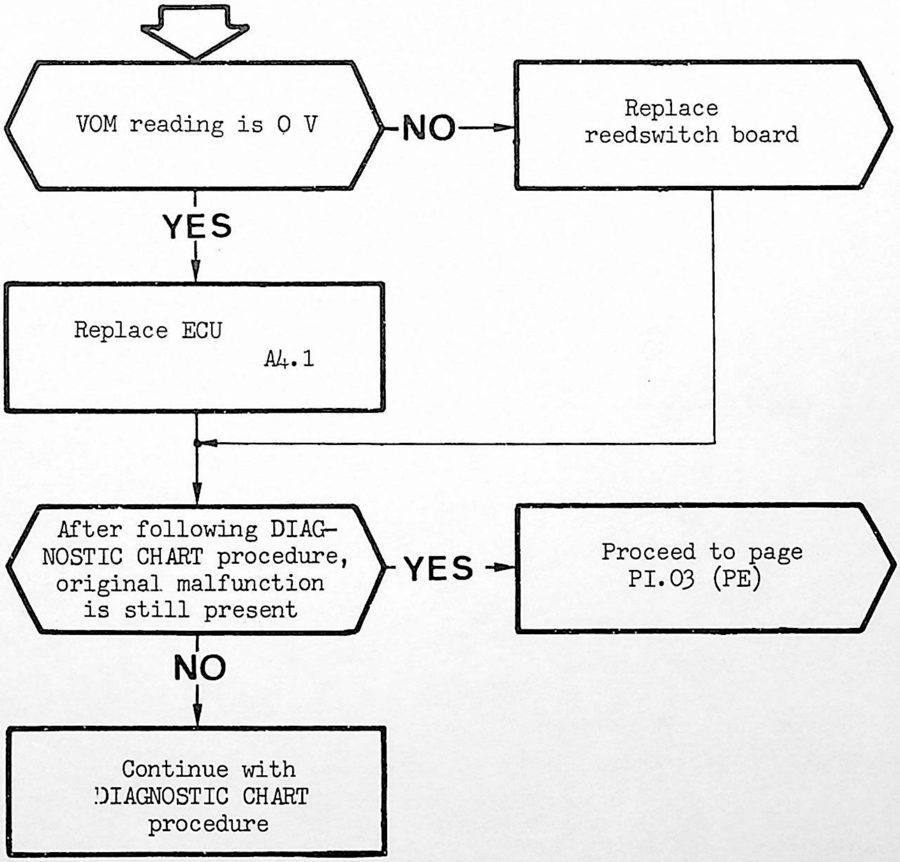
TEST B1002

PRESENCE OF +5 VDC ON REEDSWITCH BOARD

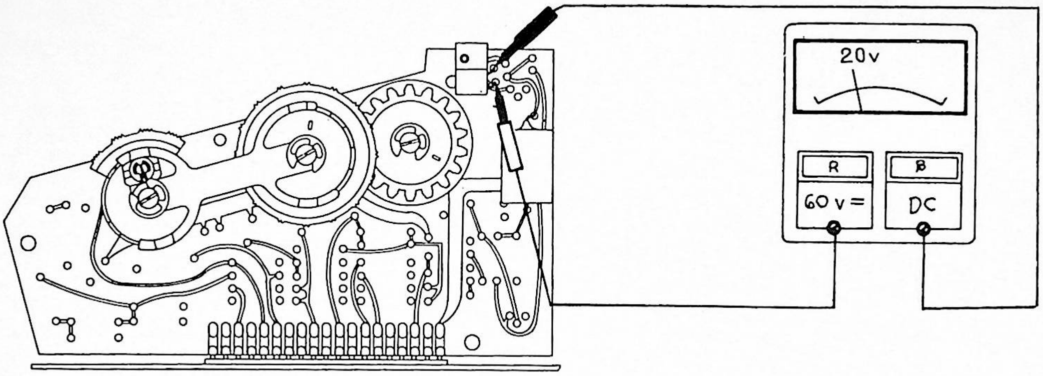
PRELIMINARY OPERATIONS

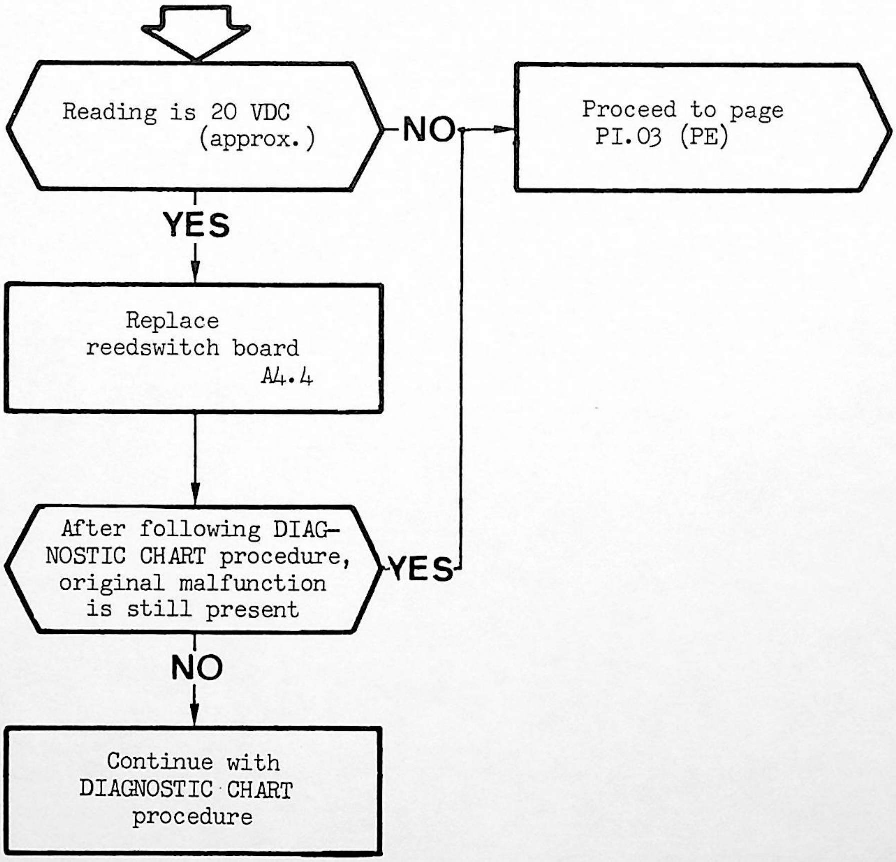
1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)




VOM reading is 0 V
NO
Replace reedswitch board
YES
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST B2003	GREEN LIGHT
PRELIMINARY OPERATIONS	1 - Insert line cord and turn machine on 2 - Set VOM for a DC voltage measurement (scale 60V DC) 3 - Perform test as shown in figure




Reading is 20 VDC (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
Continue with DIAGNOSTIC CHART procedure

EXIT **C**	KEYBOARD IS UNLOCKED
MECHANICAL CHECKS	- Checking keyboard lock during processing = A3.44

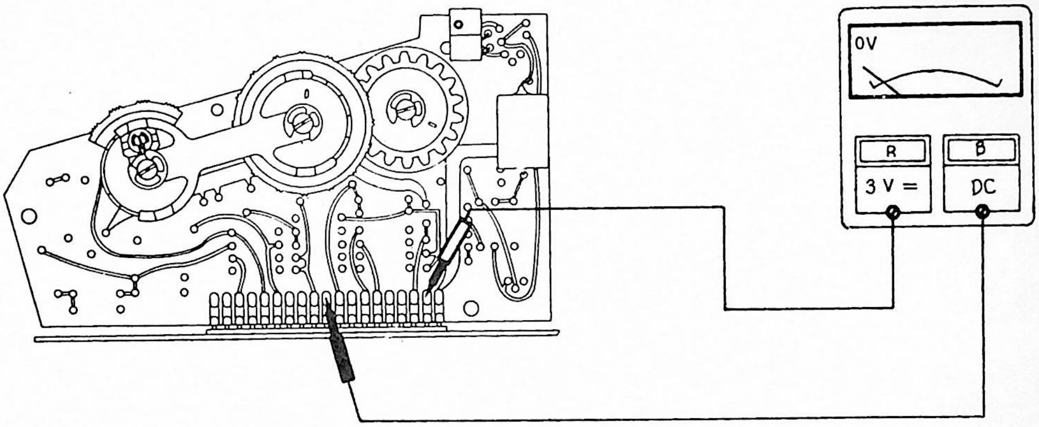
PERFORM TEST ON
NEXT PAGE

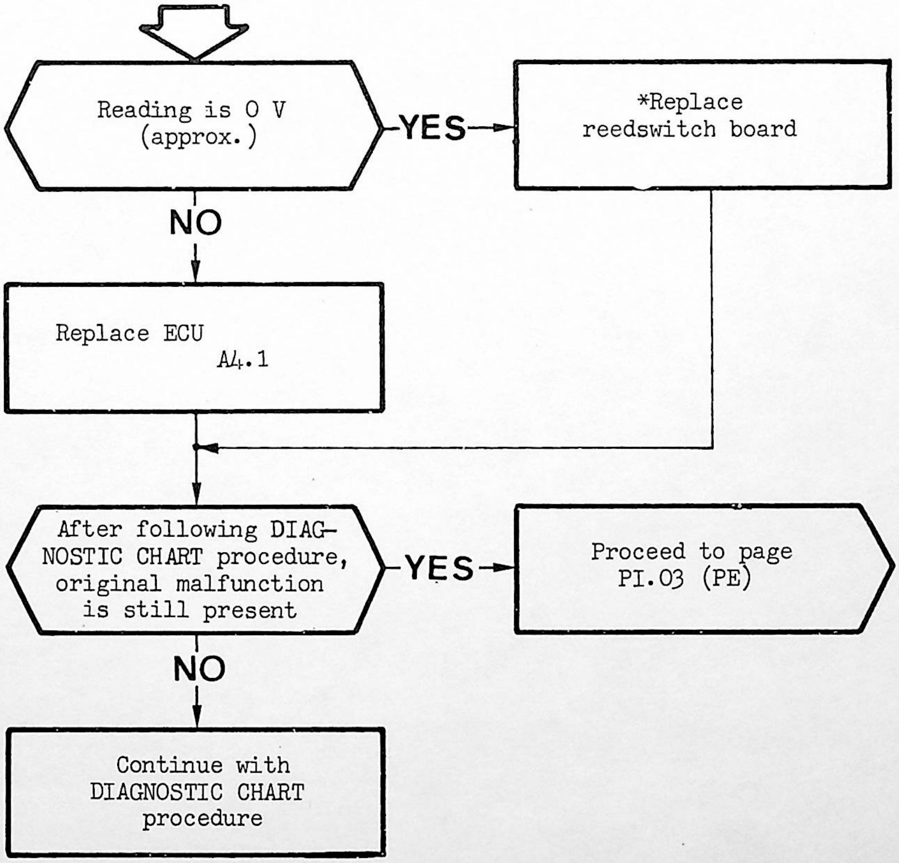
TEST
C0002
C0003*

SIGNAL BLOT

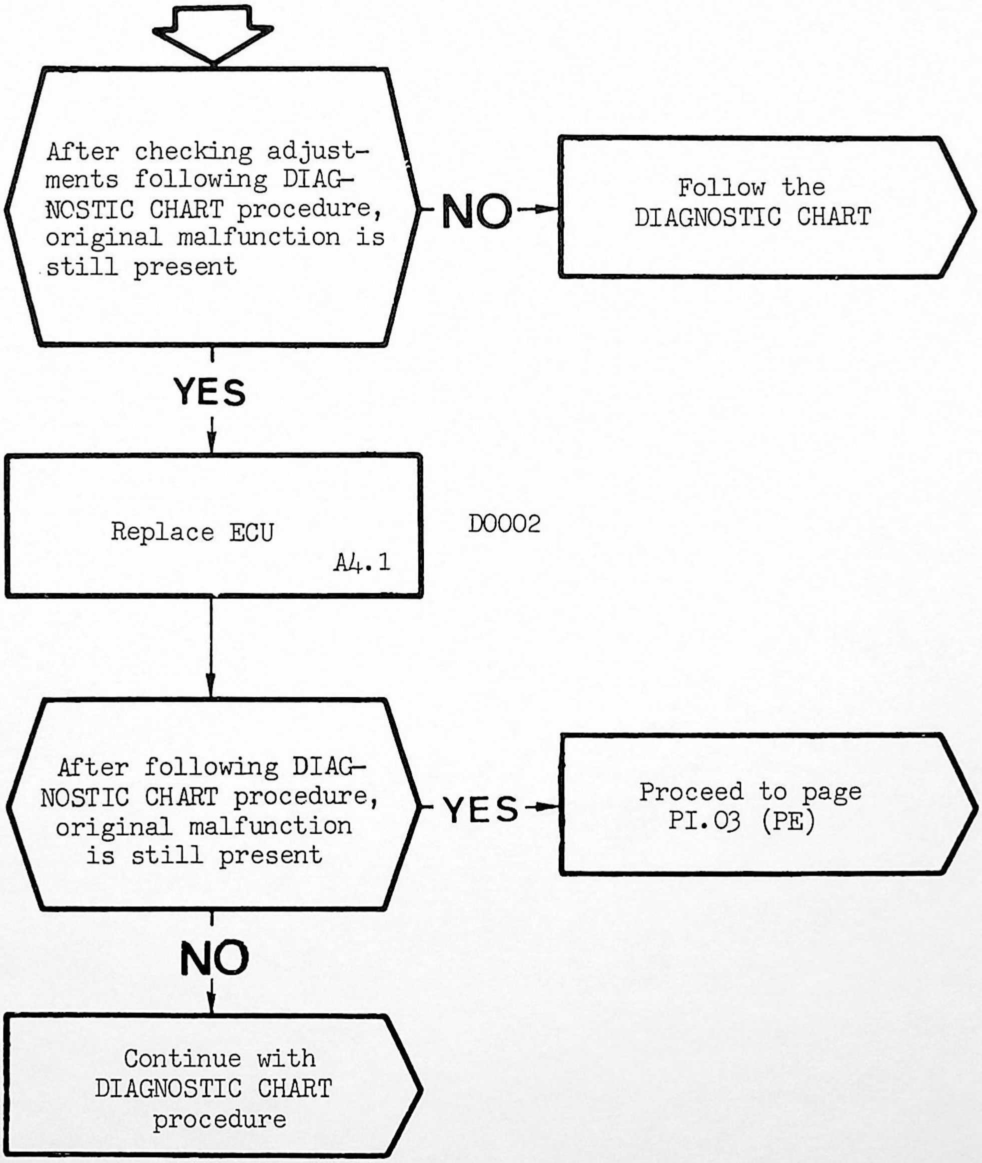
PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 0 V (approx.)
YES
*Replace reedswitch board
NO
Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT D	AFTER RESET KEY DEPRESSION, CARRIAGE IS NOT AT ITS REST POSITION
MECHANICAL CHECKS	- Adjustment of amount of control of printer solenoid = A3.10 - Adjustment of position of pickup coil = A3.17

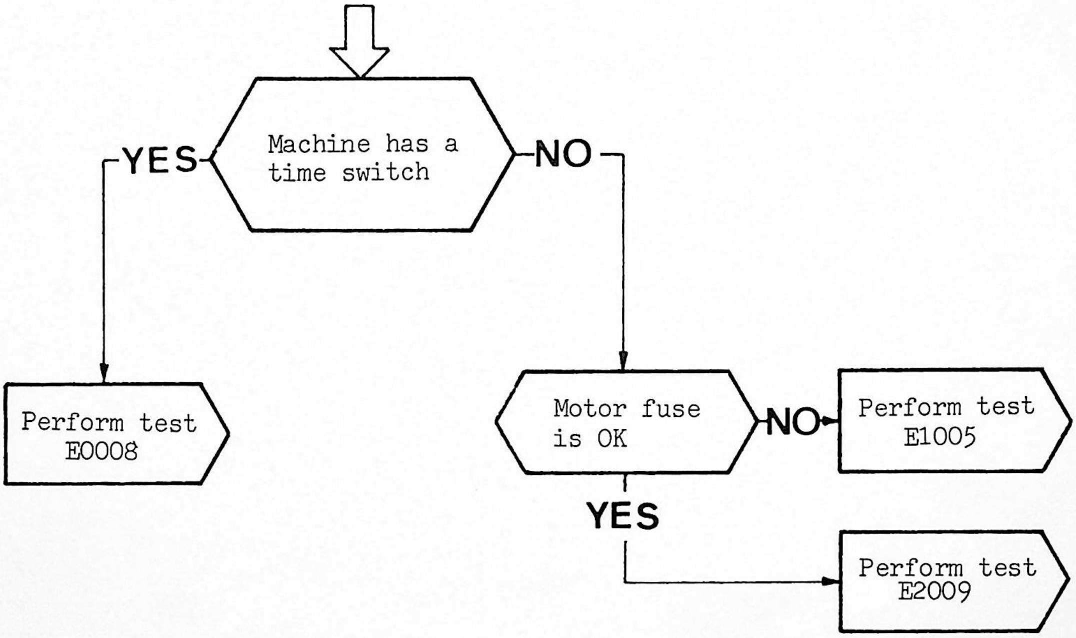

After checking adjustments following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
Follow the DIAGNOSTIC CHART
YES
Replace ECU
A4.1
D0002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT
E

MOTOR DOES NOT RUN

MECHANICAL CHECKS

- Adjustment of entry servoclutch engagement = A3.26
- Adjustment of time switch = A3.28

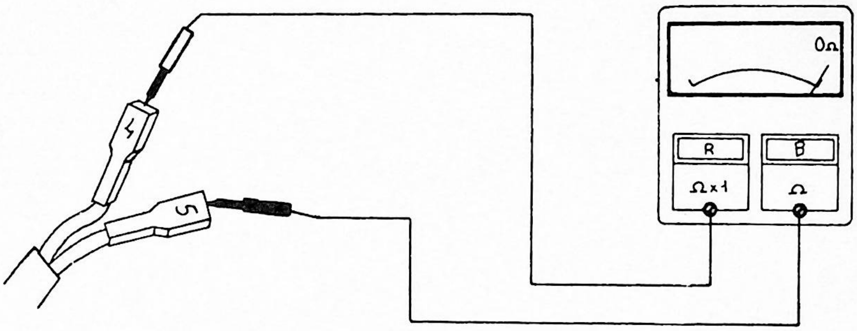


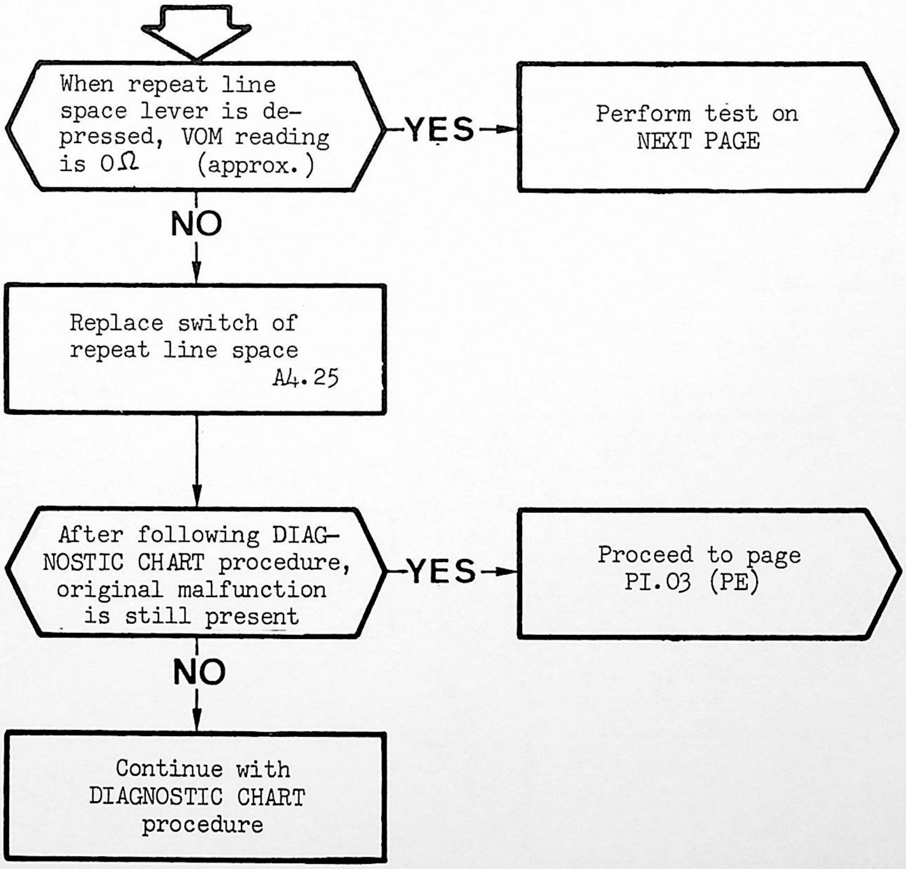
TEST E0008

REPEAT LINE SPACE SWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect fastons 4 and 5 from distribution plate
3 - Ensure efficiency of connections on terminal strip "Mamut"
4 - Set VOM for a continuity check (scale Ω x 1)
5 - Perform test as shown in figure





When repeat line space lever is depressed, VOM reading is 0Ω (approx.)

YES → Perform test on NEXT PAGE

NO ↓

Replace switch of repeat line space
A4.25

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

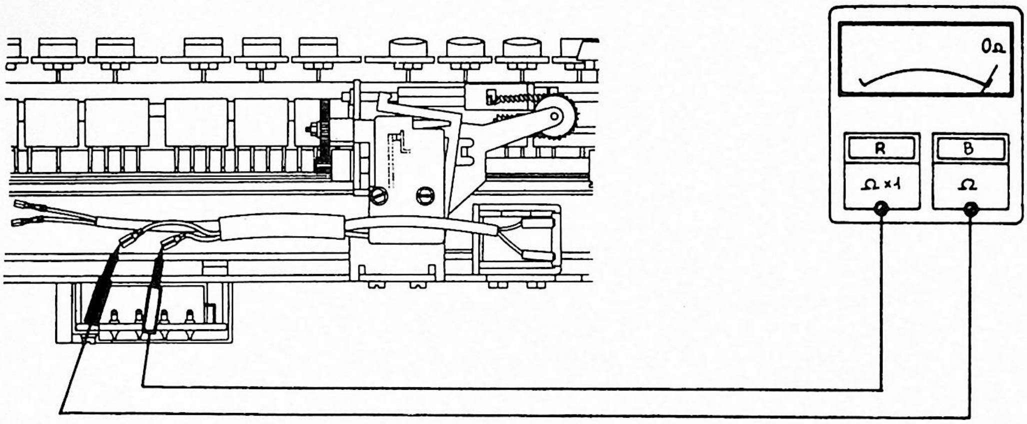
Continue with DIAGNOSTIC CHART procedure

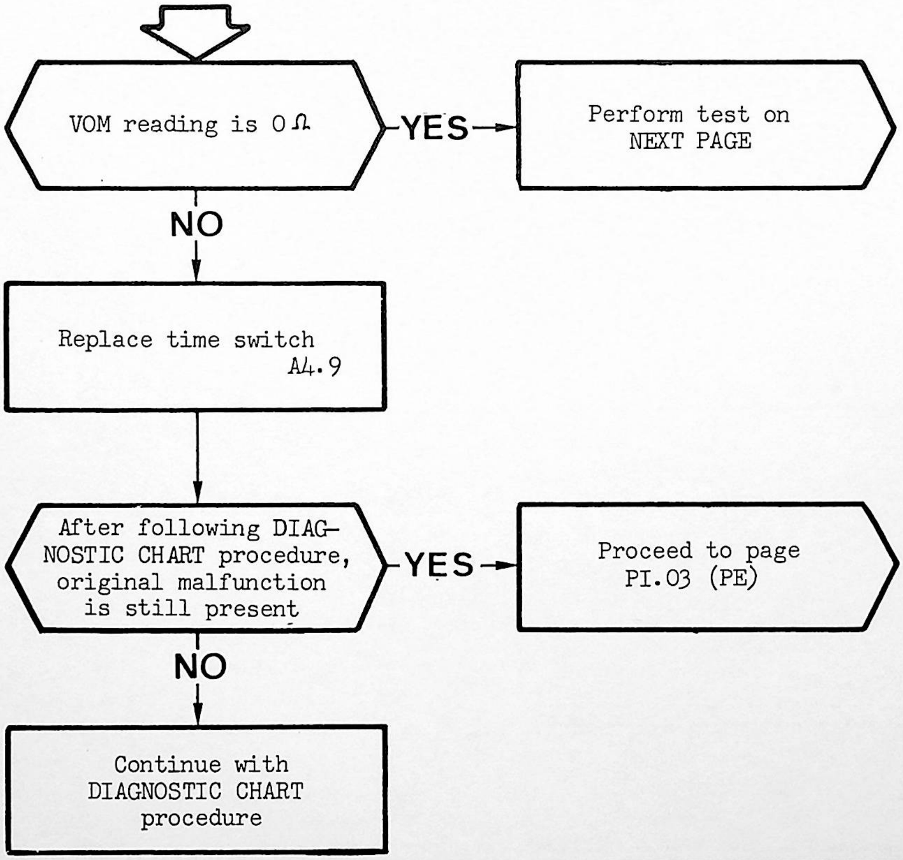
TEST E0017

TIME SWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove keyboard unit (A4.3)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Check time switch efficiency as indicated in figure





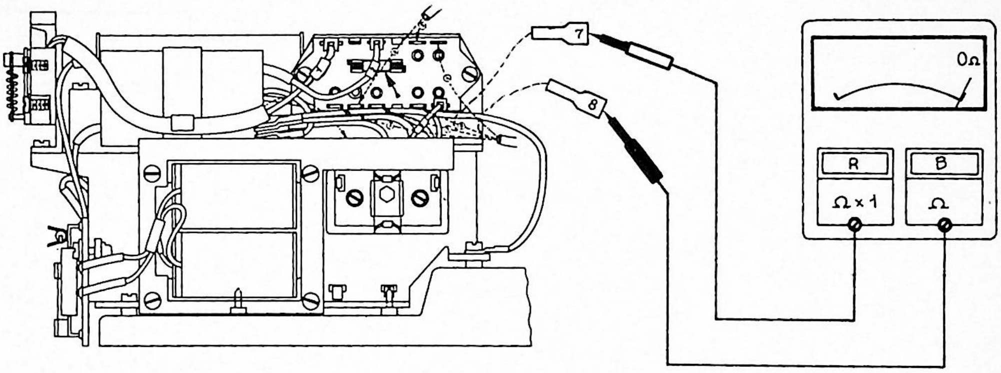
VOM reading is 0Ω
YES
Perform test on NEXT PAGE
NO
Replace time switch A4.9
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

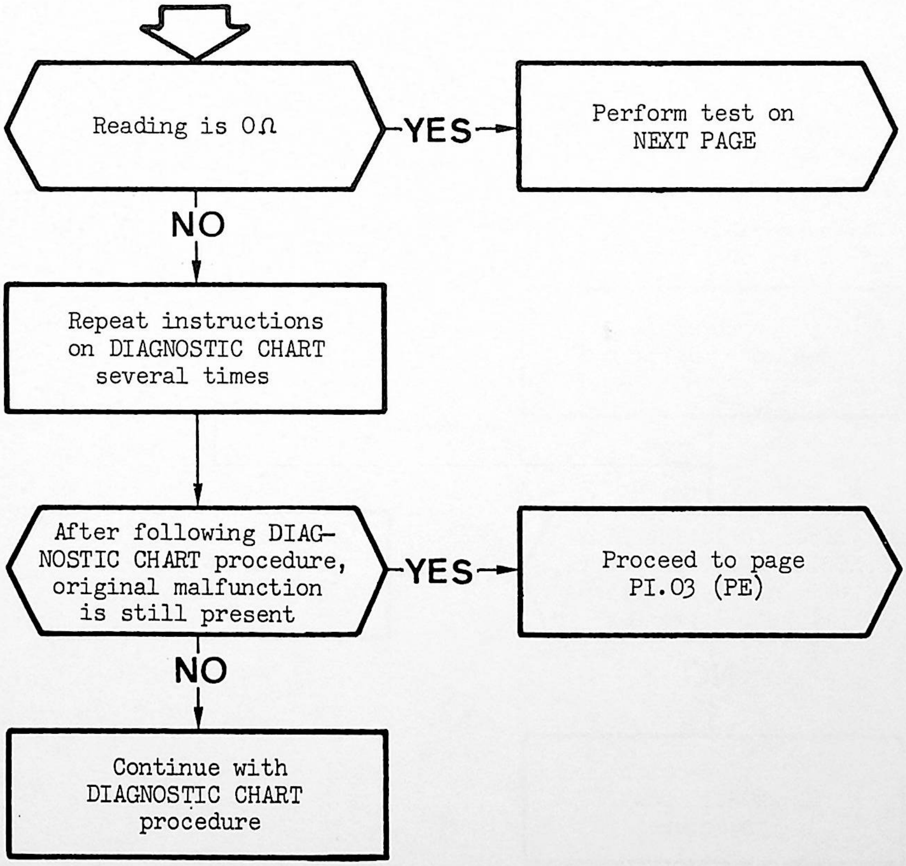
TEST E1005

PRESENCE OF SHORT CIRCUIT ON MOTOR POWER SUPPLY

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect fastons 7 and 8 from distribution plate
3 - Replace burned-out fuse with a good one
4 - Set VOM for a continuity check (scale Ω x 1)
5 - Perform continuity check between fastons 7 and 8, with fastons off distribution plate




Reading is 0Ω

YES → Perform test on NEXT PAGE

NO ↓

Repeat instructions on DIAGNOSTIC CHART several times

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

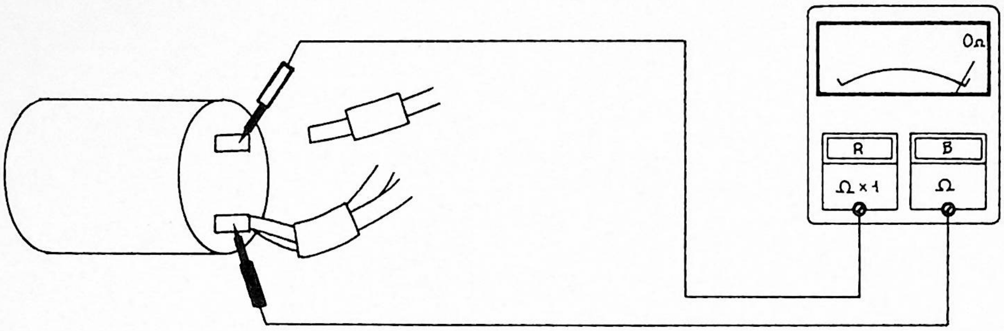
Continue with DIAGNOSTIC CHART procedure

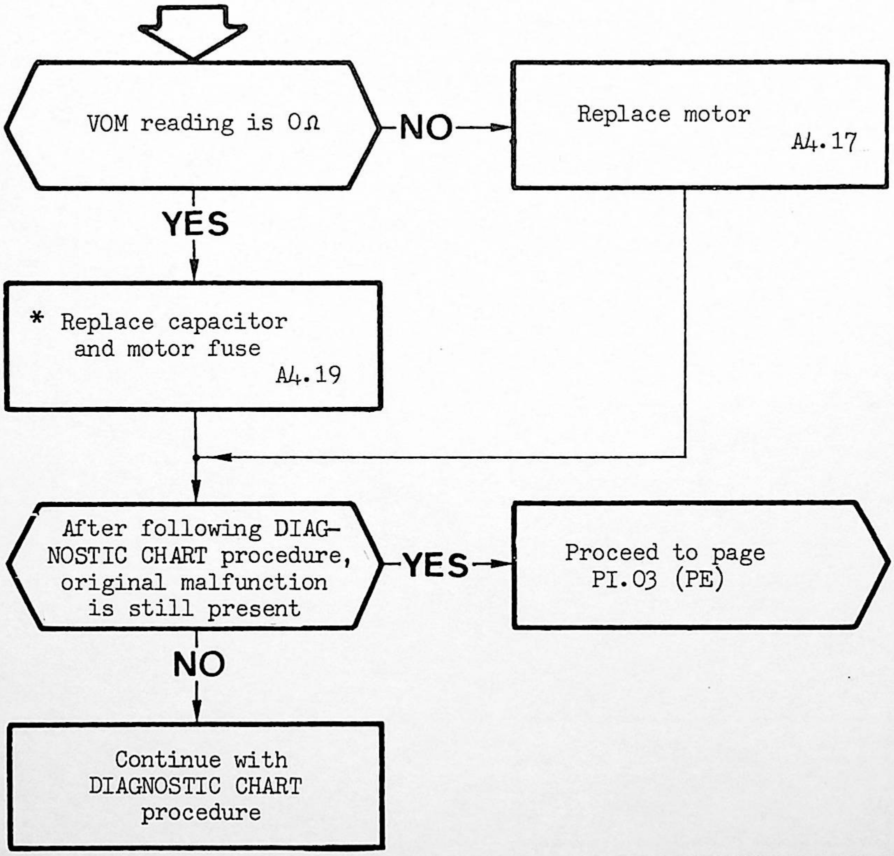
TEST
E 1019
E 1029*

MOTOR START CAPACITOR

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove motor start capacitor from tally roll holder (A4.19)
3 - Using a screwdriver, momentarily short the two ends of capacitor
4 - Unsolder one of the wires and move back insulating plastic sleeve of the second wire
5 - Set VOM for a continuity check (scale Ω x 1)
6 - Perform test as shown in figure



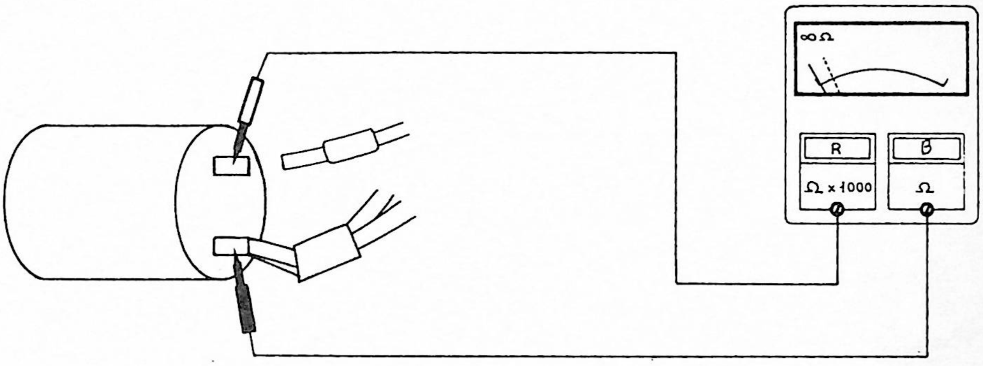

VOM reading is 0Ω
NO
Replace motor
A4.17
YES
* Replace capacitor and motor fuse
A4.19
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

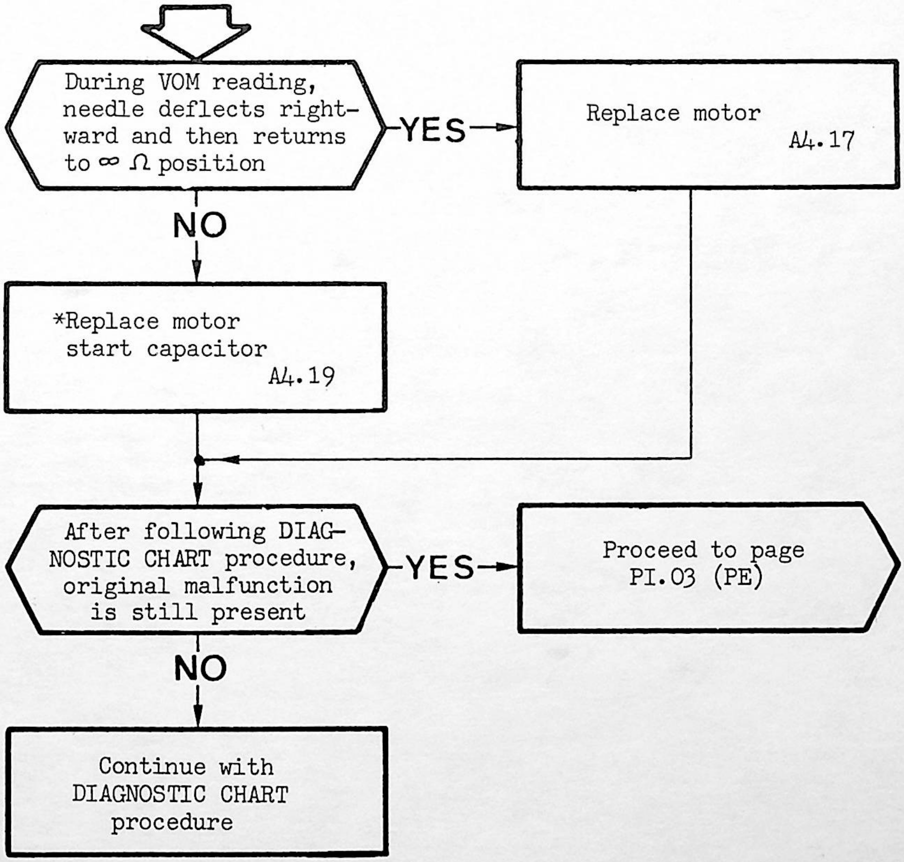
TEST
E2009
E2019*

MOTOR START CAPACITOR

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove tally roll holder (A4.19)
3 - Move back insulating plastic sleeves and unsolder one of the wires
4 - Set VOM for a continuity check (scale Ω x 1000)
5 - Using a screwdriver, momentarily short the two ends of capacitor
6 - Perform test as shown in figure





During VOM reading, needle deflects rightward and then returns to ∞ Ω position

YES → Replace motor A4.17

NO → *Replace motor start capacitor A4.19

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

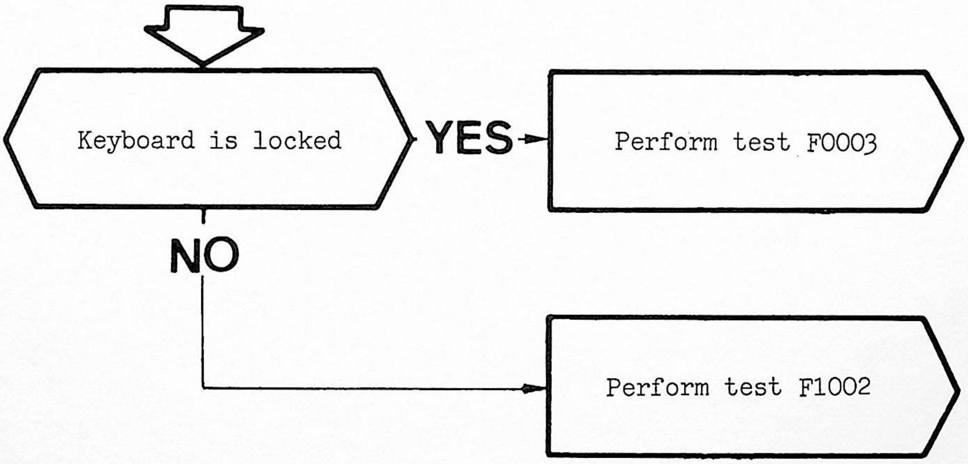
NO → Continue with DIAGNOSTIC CHART procedure

EXIT F

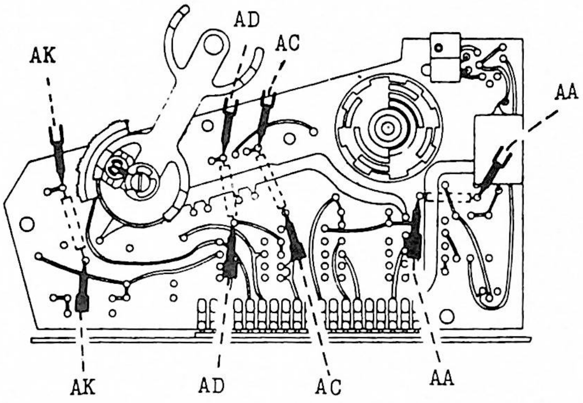
RED LIGHT IS ON

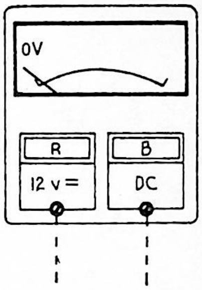
MECHANICAL CHECKS

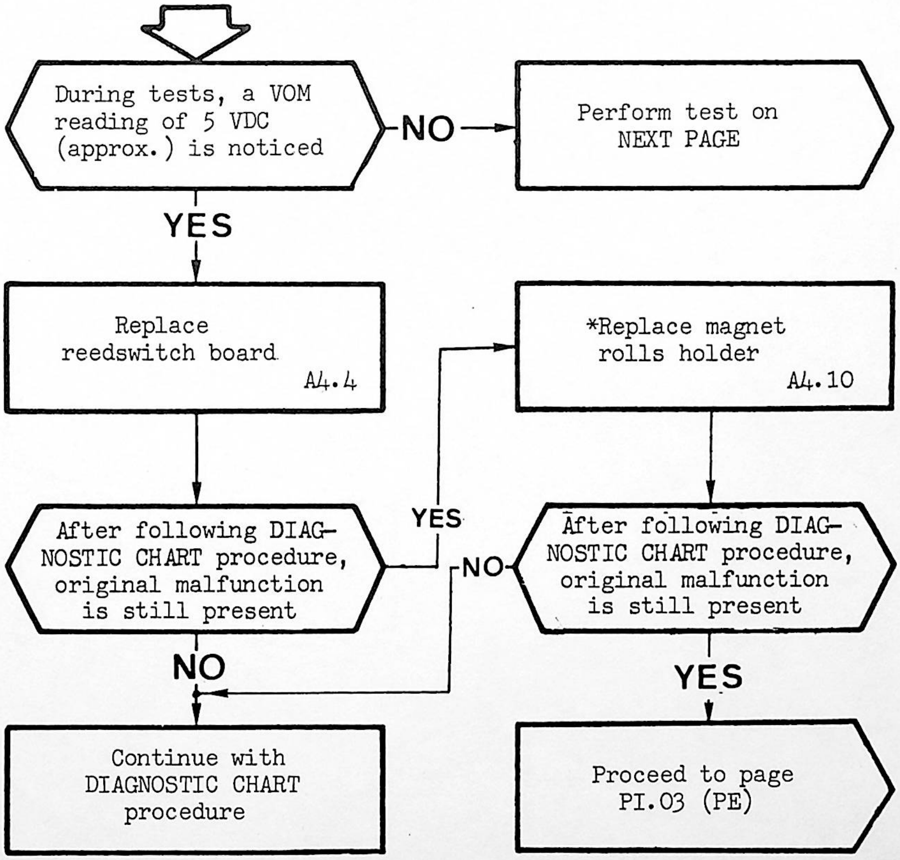
- Check coding bar lock mechanism = A3.35
- Check that reedswitch screens are covering the magnets properly
- Check angular position of screen of AK reedswitch = A3.38
- Check angular position of rear setting bail = A3.31
- Check angular position of front setting bail = A3.32



TEST F0003 F0007*	REEDSWITCH AK, AD, AA, AC
PRELIMINARY OPERATIONS	1 - Insert line cord and turn power switch on 2 - Set VOM for a DC voltage measurement (scale 12V DC) 3 - Manually move screen from magnet roll, and perform tests as shown in figure (A7.1)





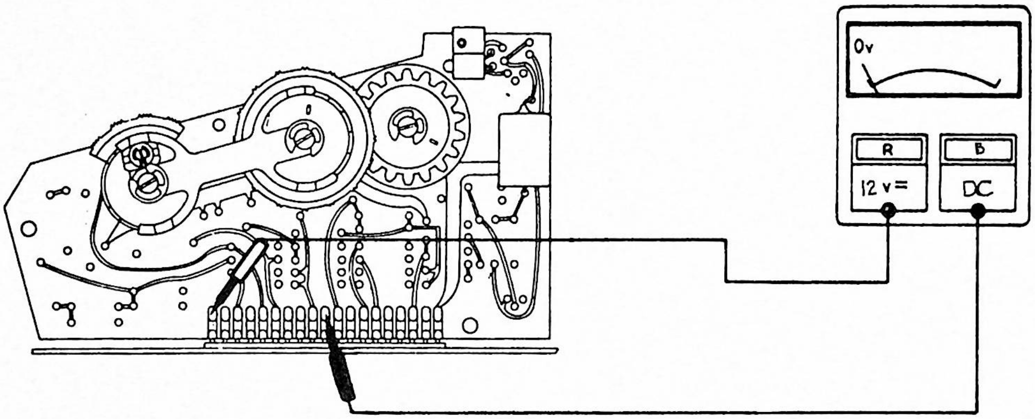

During tests, a VOM reading of 5 VDC (approx.) is noticed
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board
A4.4
*Replace magnet rolls holder
A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

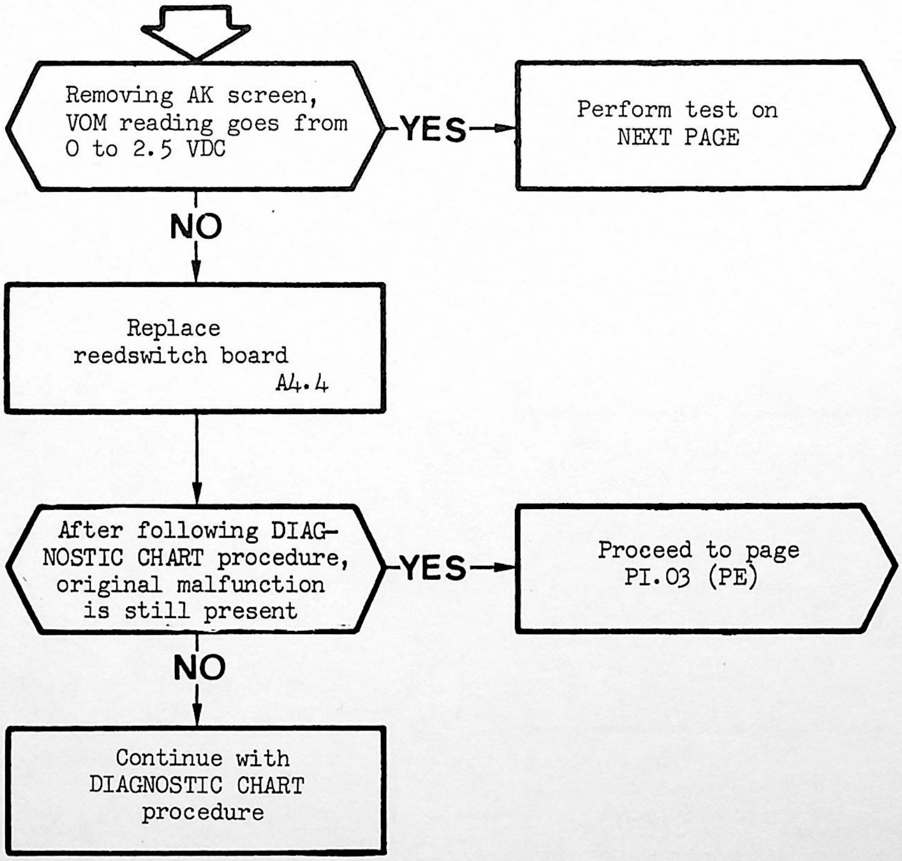
TEST F0013

AK SIGNAL

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Manually moving screen of AK microswitch, perform test as shown in figure (ensure that fastons shown make a good contact)



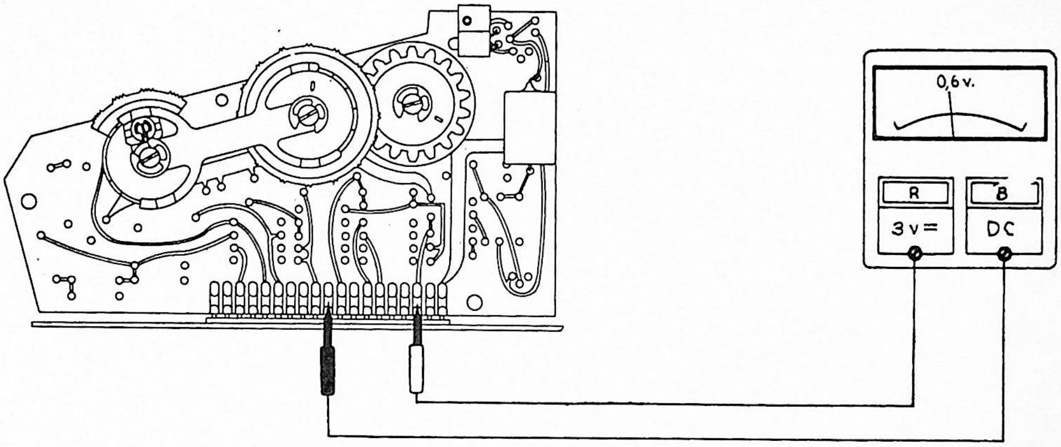

Removing AK screen, VOM reading goes from 0 to 2.5 VDC
YES
Perform test on NEXT PAGE
NO
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

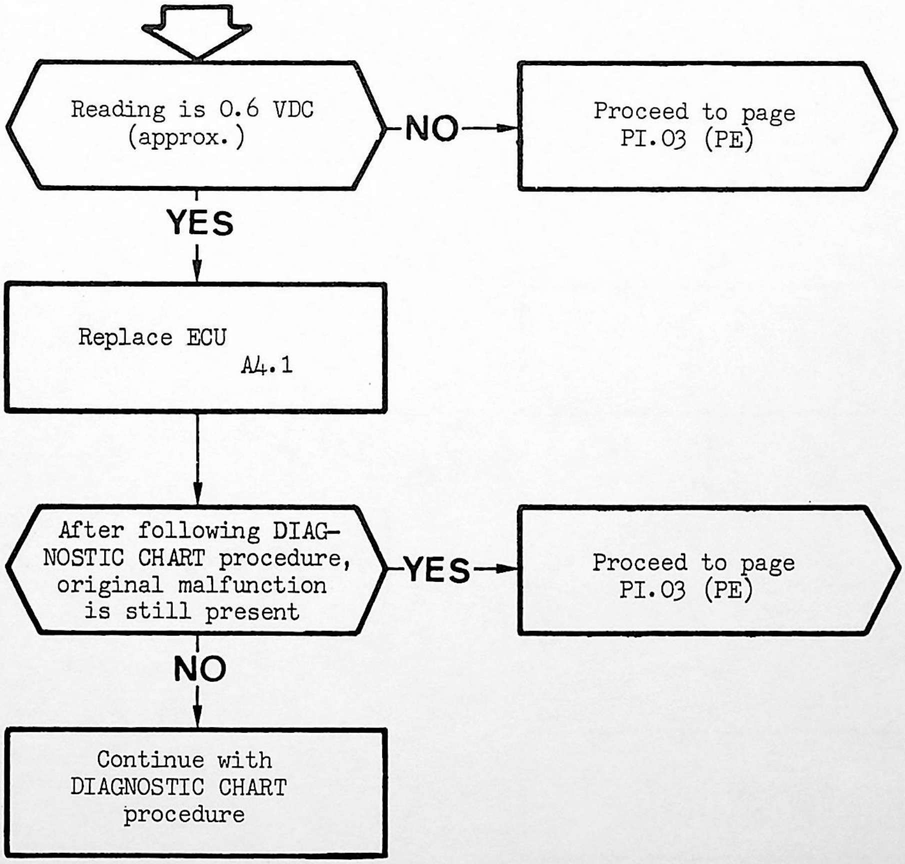
TEST F0023

SIGNAL EROA

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)



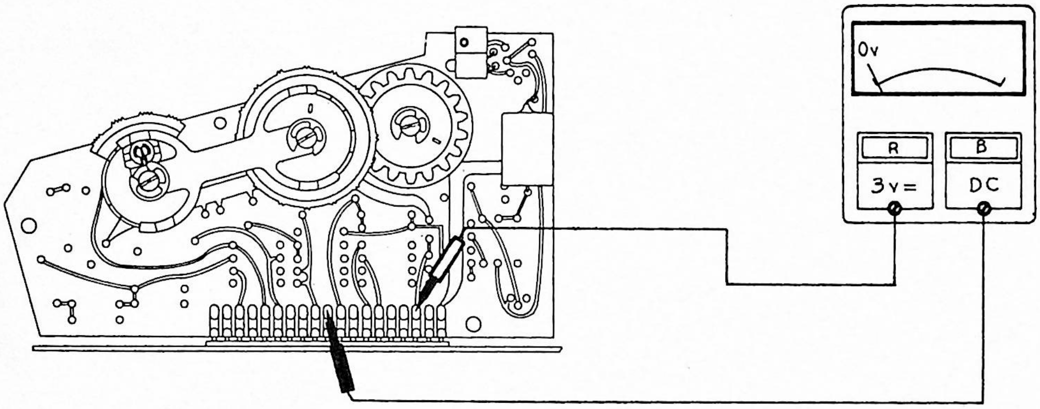

Reading is 0.6 VDC (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

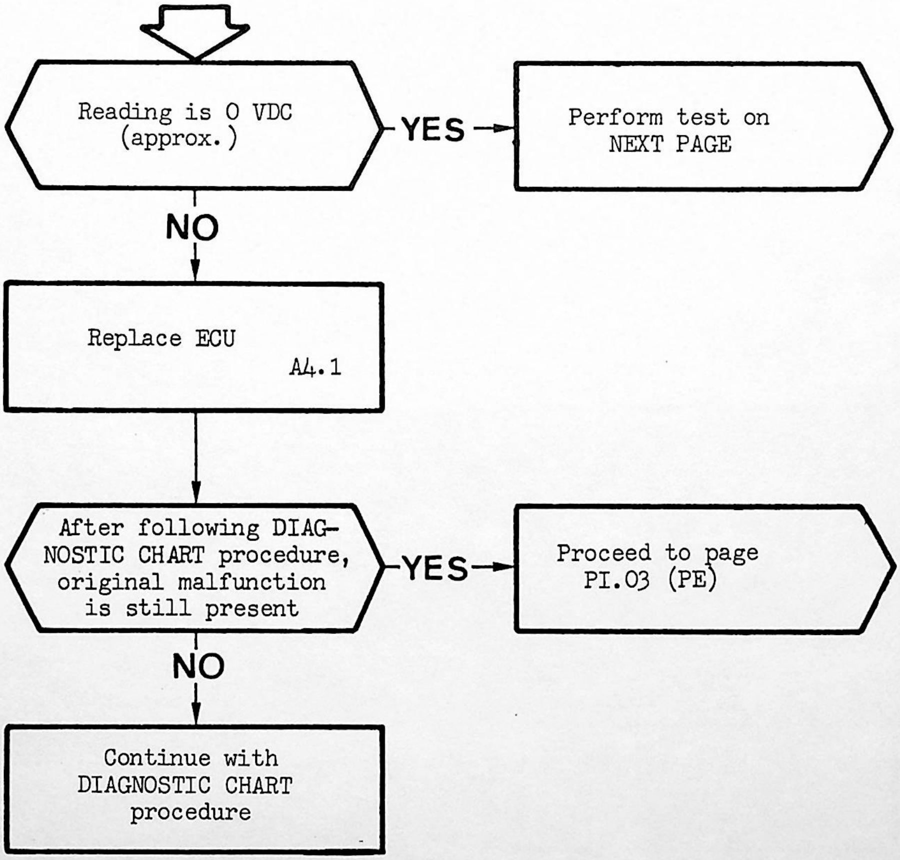
TEST
F 1002

SIGNAL EROA

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch off and on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)



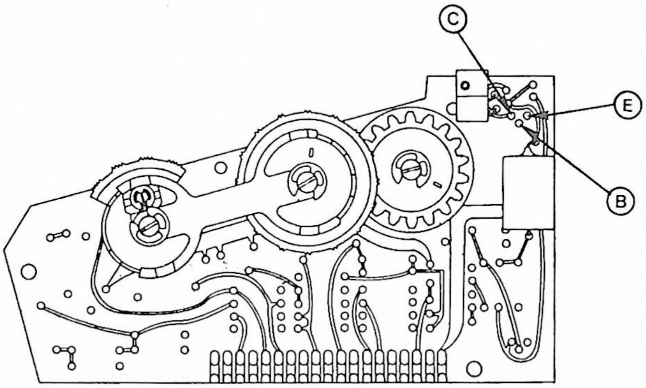

Reading is 0 VDC (approx.)
YES
Perform test on NEXT PAGE
NO
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST
F 1011*
F 1013

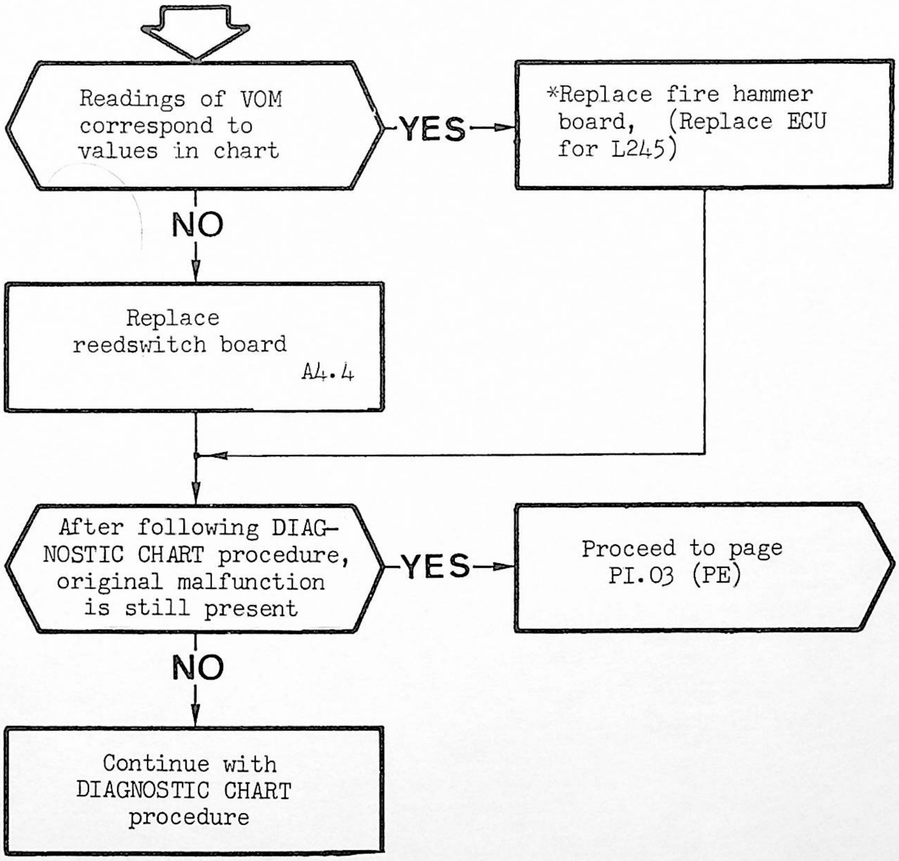
SPECIAL CIRCUIT

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing reading of VOM with values in table



Probes		Readings (Ω) (approx.)
Red	Black	
B	C	1K
B	E	1K
C	E	150
C	B	150
E	B	150
E	C	200


Readings of VOM correspond to values in chart
YES
*Replace fire hammer board, (Replace ECU for L245)
NO
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT **G**	KEYBOARD IS LOCKED
MECHANICAL CHECKS	- Check coding bar lock mechanism = A3.35 - Check that reedswitch screens are covering magnets properly - Check keyboard lock during operation = A3.44 - Check angular position of screen of AK reedswitch = A3.38 - Check angular position of rear setting bail = A3.31 - Check angular position of front setting bail = A3.32

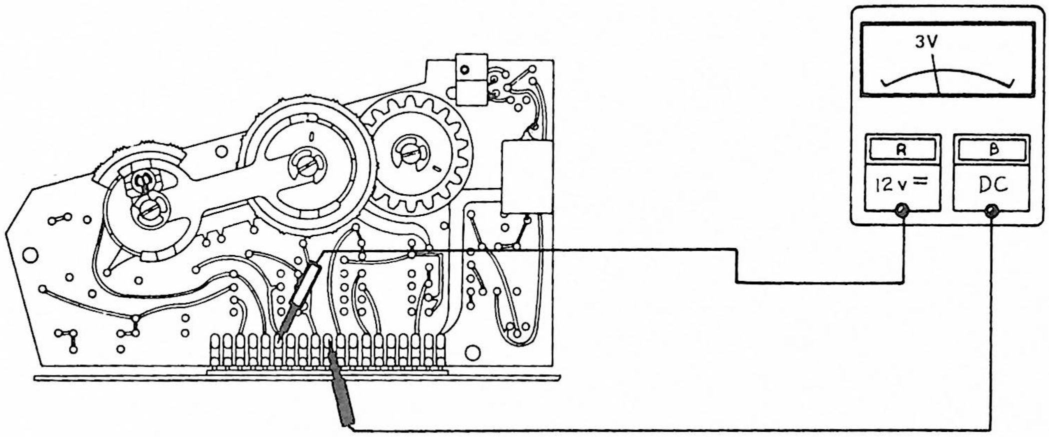
PERFORM TEST ON
NEXT PAGE

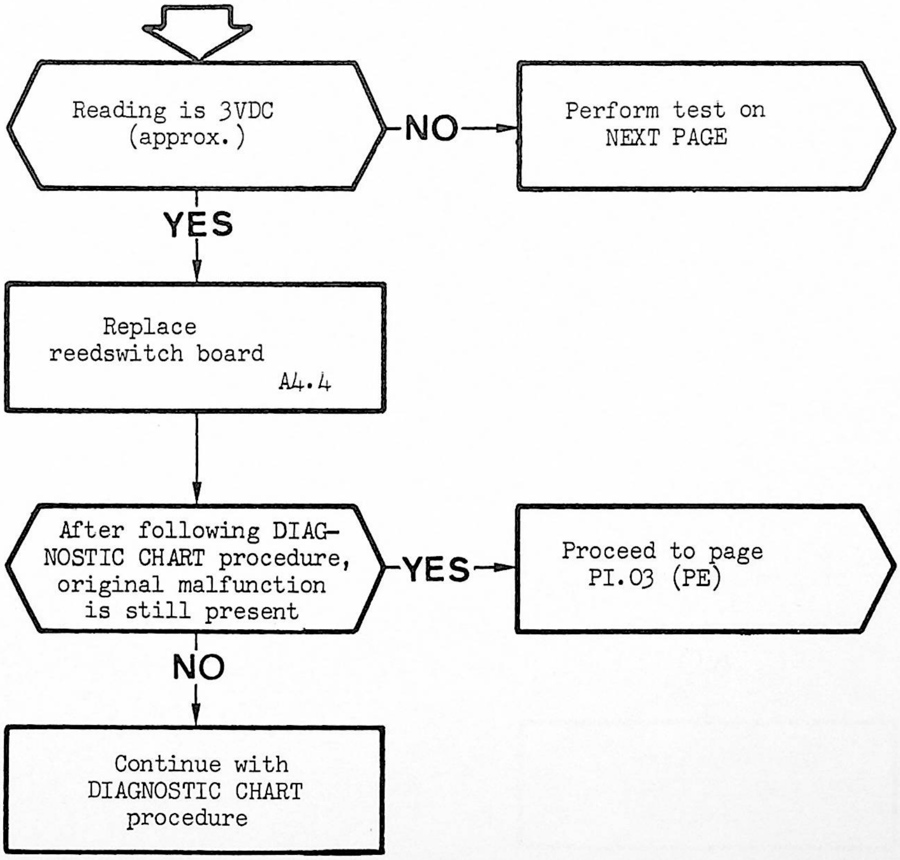
TEST G0002

SIGNAL AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Ensure that screen of AF reedswitch covers the roll magnet completely (A7.1)
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that the fastons shown make good contact)





Reading is 3VDC (approx.)

NO → Perform test on NEXT PAGE

YES ↓

Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

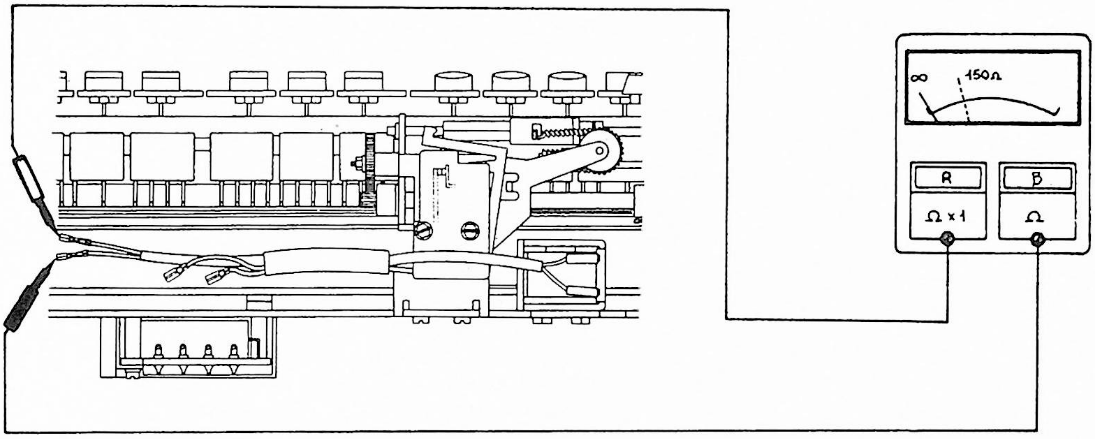
Continue with DIAGNOSTIC CHART procedure

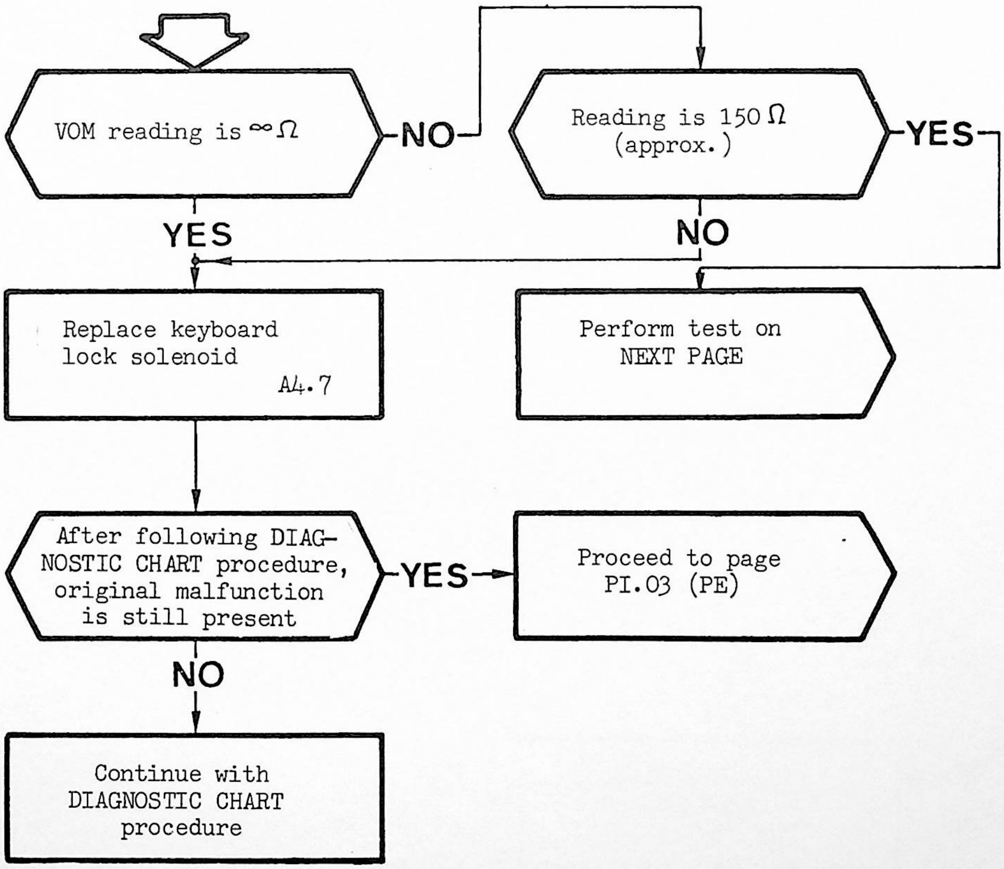
TEST G0017

KEYBOARD LOCK SOLENOID

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect two wires of solenoid from reedswitch board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



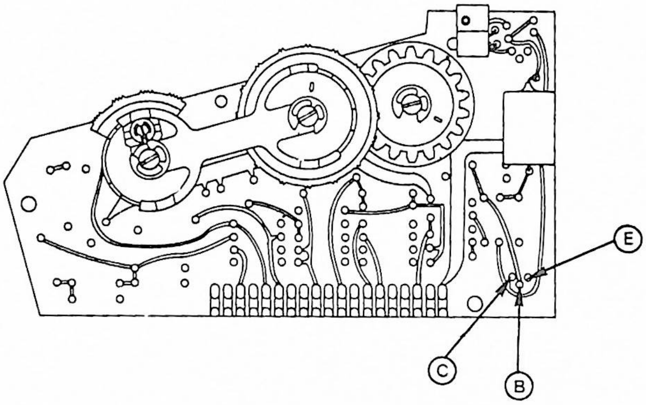

VOM reading is ∞Ω
NO
YES
Reading is 150 Ω (approx.)
YES
NO
Replace keyboard lock solenoid A4.7
Perform test on NEXT PAGE
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
Proceed to page PI.03 (PE)
Continue with DIAGNOSTIC CHART procedure

TEST G0023

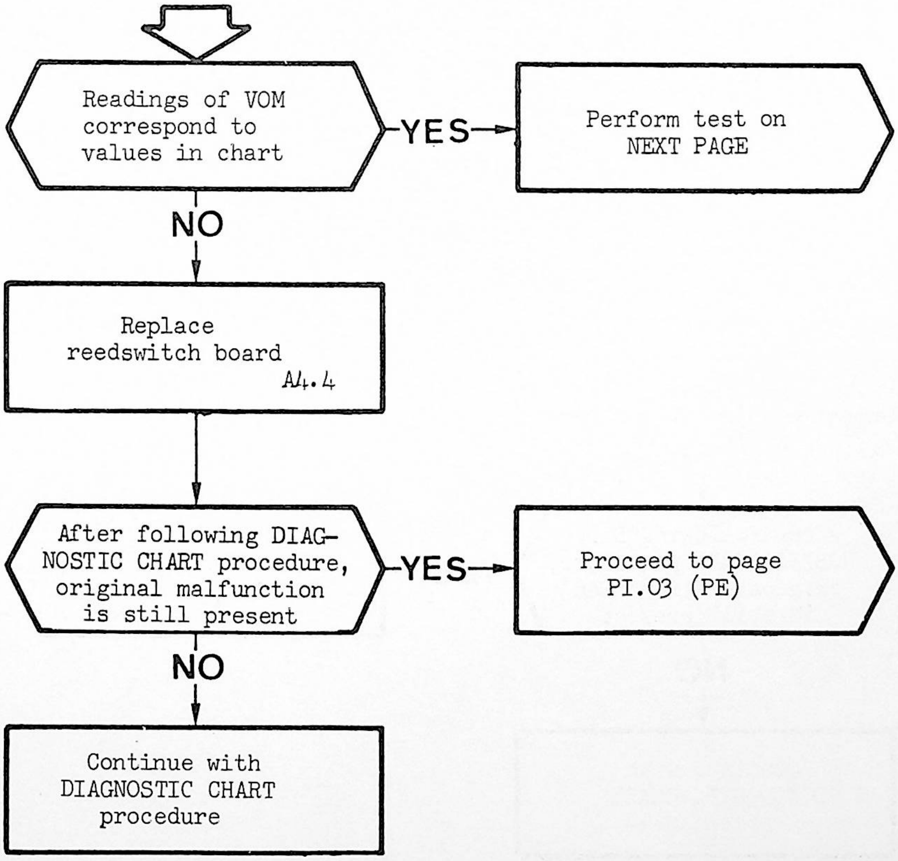
SPECIAL CIRCUIT

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing readings of VOM with values in chart



Probes		Readings (Ω) (approx.)
Red	Black	
B	E	7K
B	C	7K
E	B	150
C	B	150
C	E	7K
E	C	700

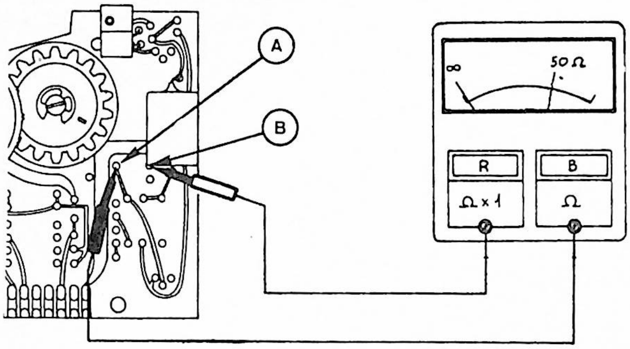

Readings of VOM correspond to values in chart
YES
Perform test on NEXT PAGE
NO
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST G0033

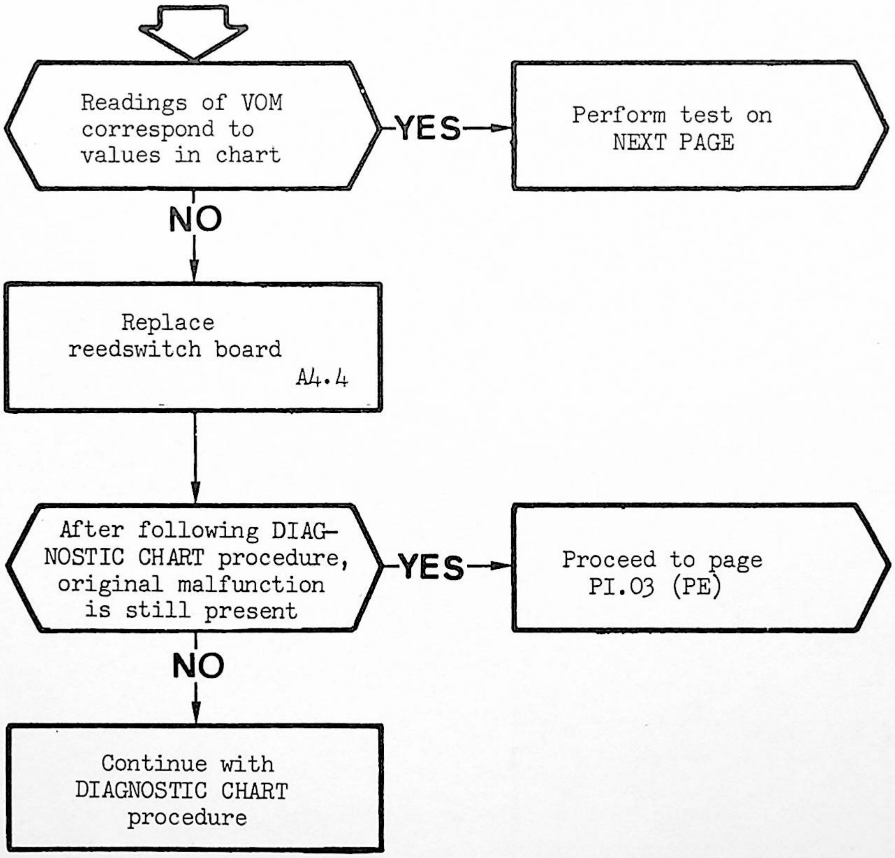
SPECIAL CIRCUIT

PRELIMINARY OPERATIONS

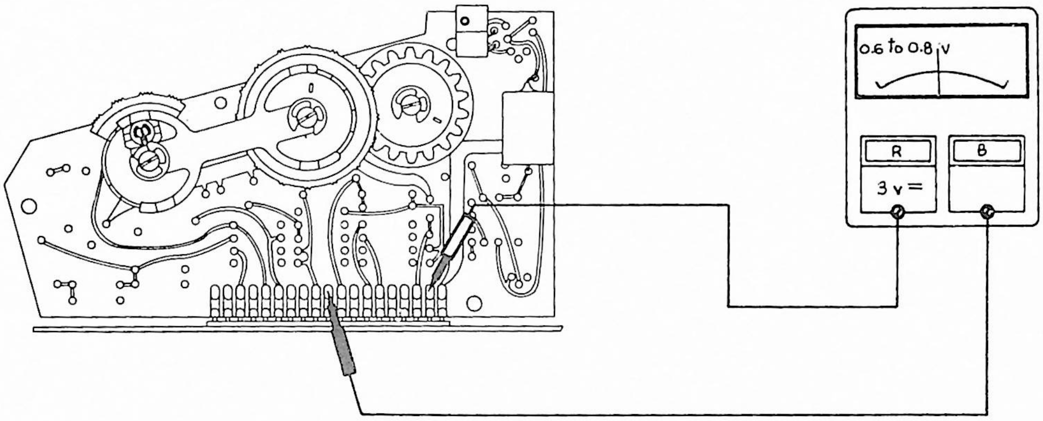
1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing readings of VOM with values in chart

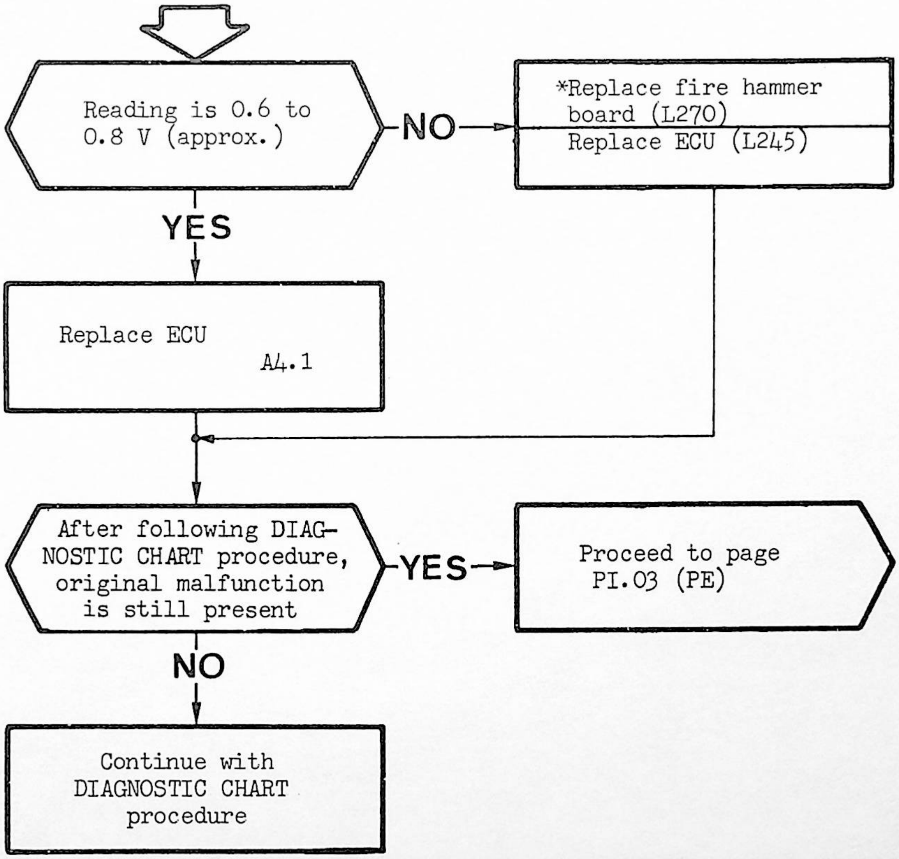


Probes		Readings (Ω) (approx.)
Red	Black	
A	B	50
B	A	∞


Readings of VOM correspond to values in chart
YES
Perform test on NEXT PAGE
NO
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST G0041* G0042	SIGNAL BLOT
PRELIMINARY OPERATIONS	1 - Insert line cord and turn power switch on 2 - Set VOM for a DC voltage measurement (scale 3V DC) 3 - Perform test as shown in figure (ensure that fastons shown make good contact) 4 - Depress the reset key




Reading is 0.6 to 0.8 V (approx.)
NO
*Replace fire hammer board (L270)
Replace ECU (L245)
YES
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT **H**	REPEAT LINE SPACE DOES NOT WORK
MECHANICAL CHECKS	- Adjustment of closing of manual line space microswitch = A3.52

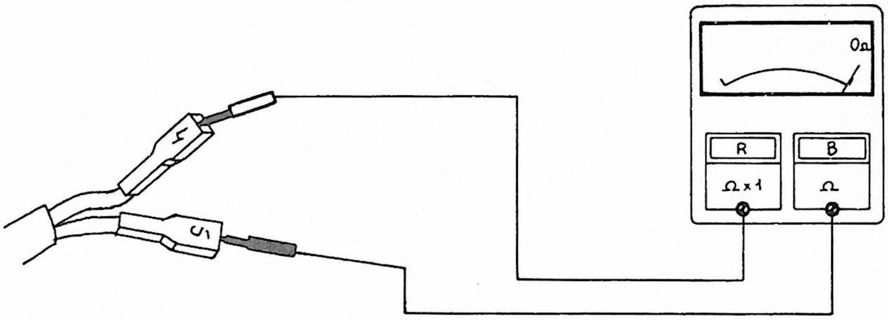
PERFORM TEST ON NEXT PAGE

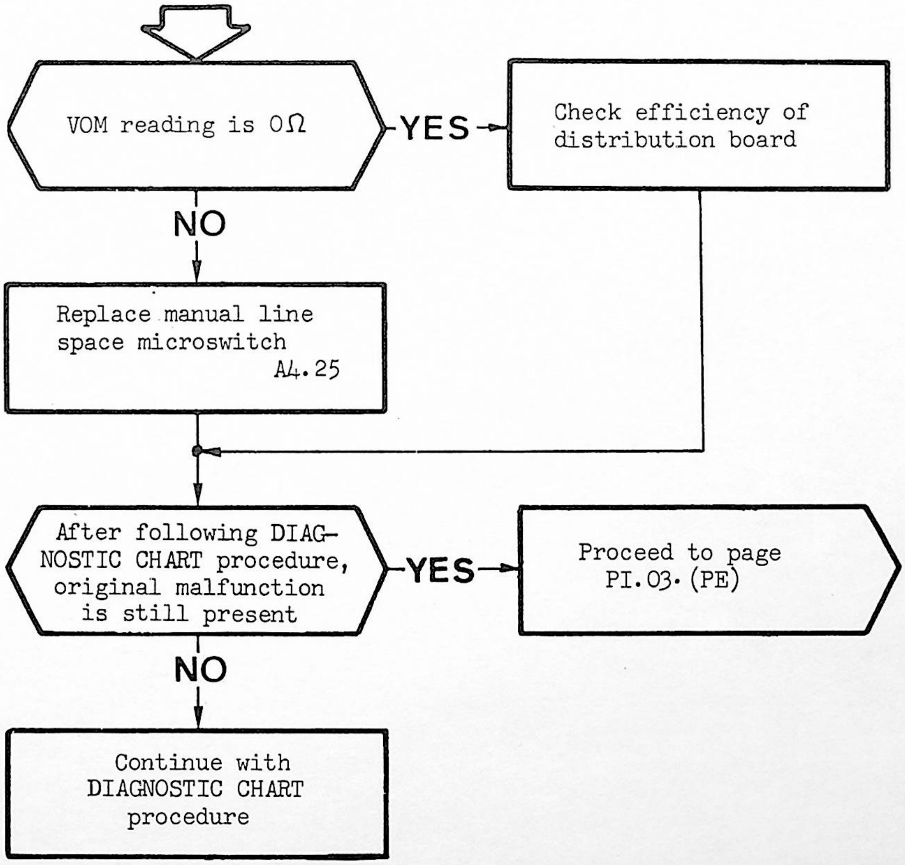
TEST H0008

MANUAL LINE SPACE MICROSWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Set VOM for a continuity check (scale Ω x 1)
3 - Remove fastons 5 and 4 from distribution plate
4 - Depressing manual line space lever, perform test as shown in figure





VOM reading is 0Ω

Check efficiency of distribution board

Replace manual line space microswitch A4.25

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Proceed to page PI.03. (PE)

Continue with DIAGNOSTIC CHART procedure

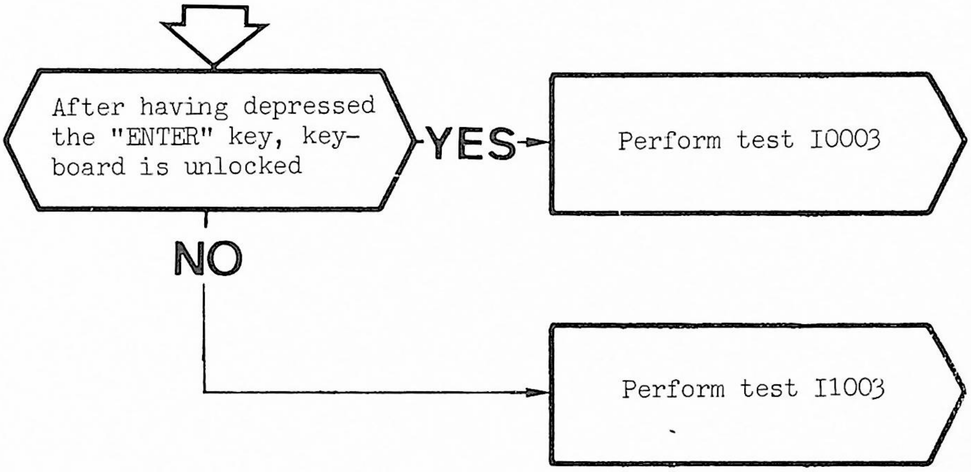
EXIT I

MACHINE DOES NOT PRINT - CARRIAGE REMAINS AT ITS REST POSITION

MECHANICAL CHECKS

- Adjustment of amount of control of the printer solenoid = A3.10
- Adjustment of position of pickup coil = A3.17
- Adjustment of AW microswitch = A3.18
- Adjustment of engagement of carriage movement rack = A3.12

LOGOS 270 - 250


After having depressed the "ENTER" key, keyboard is unlocked
YES
Perform test I0003
NO
Perform test I1003

LOGOS 245

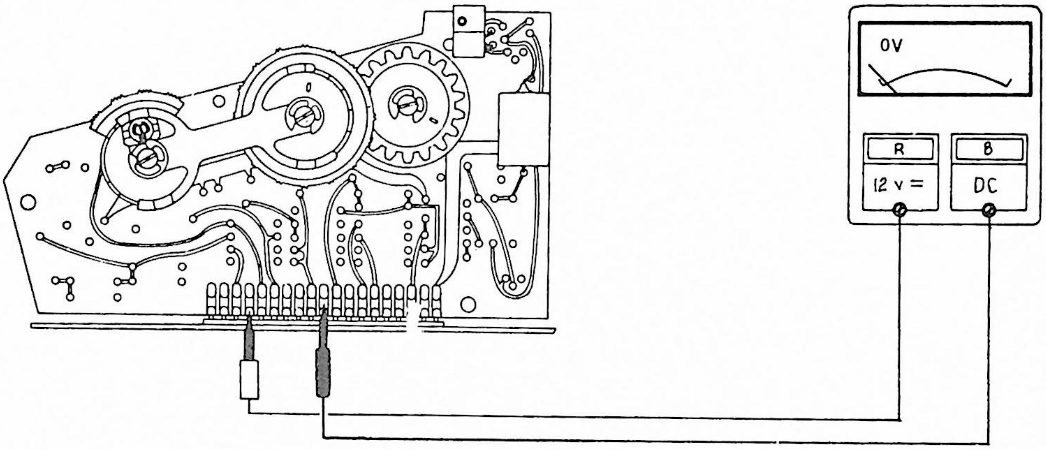
Perform test I2003

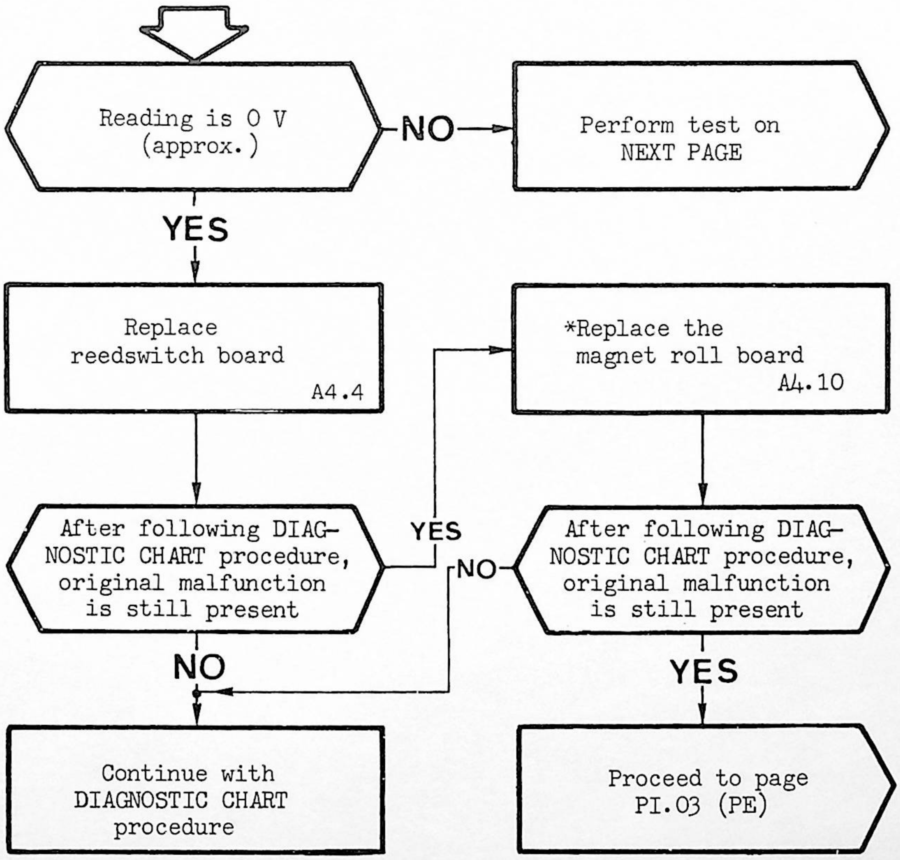
TEST
10003
10003*

REEDSWITCH AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure, taking care to manually remove screen of AF reedswitch from its magnet roll.





Reading is 0 V (approx.)

Perform test on NEXT PAGE

Replace reedswitch board A4.4

*Replace the magnet roll board A4.10

After following DIAGNOSTIC CHART procedure, original malfunction is still present

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Continue with DIAGNOSTIC CHART procedure

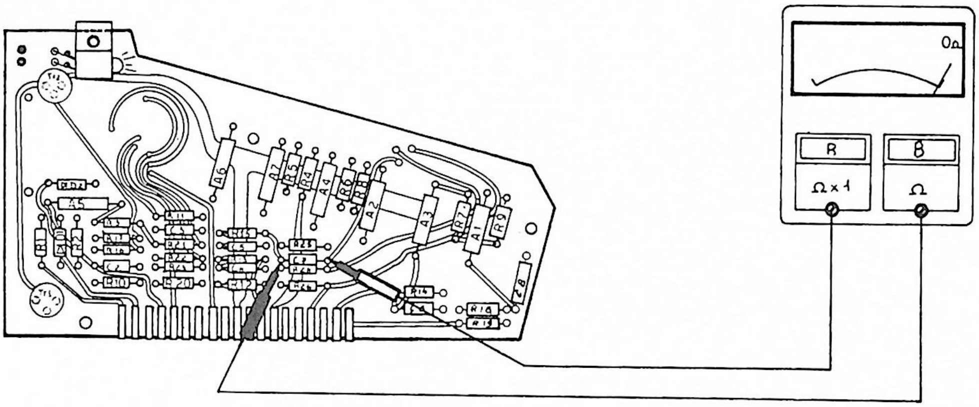
Proceed to page PI.03 (PE)

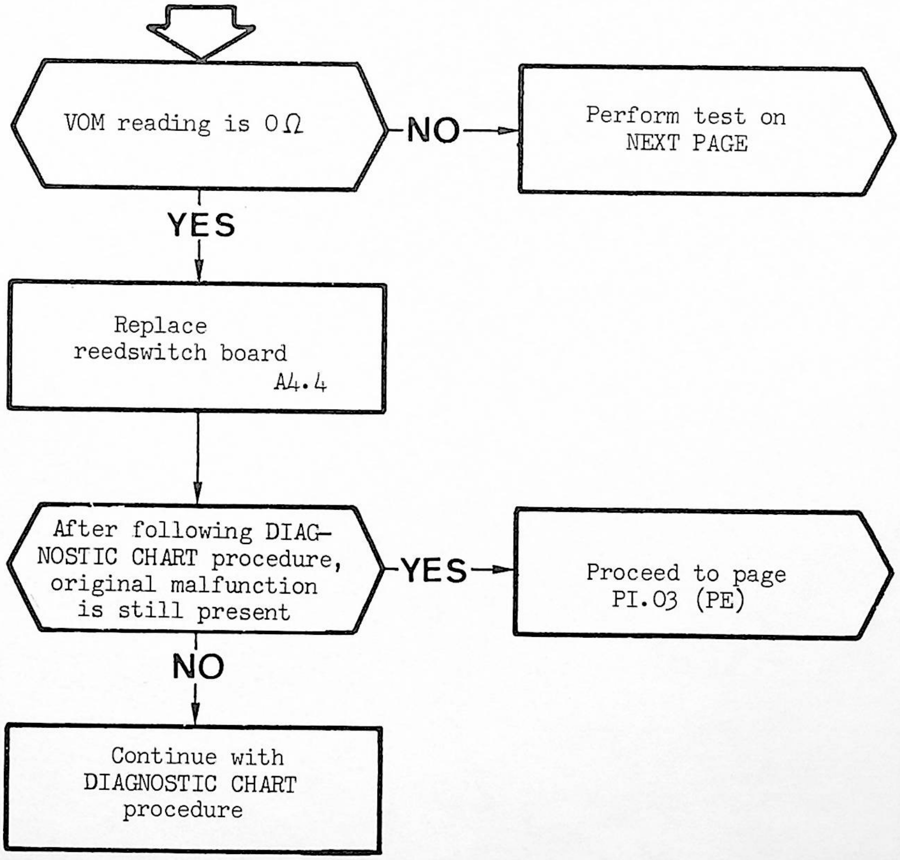
TEST 10013

CAPACITOR C7

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure





VOM reading is 0Ω

NO → Perform test on NEXT PAGE

YES ↓

Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

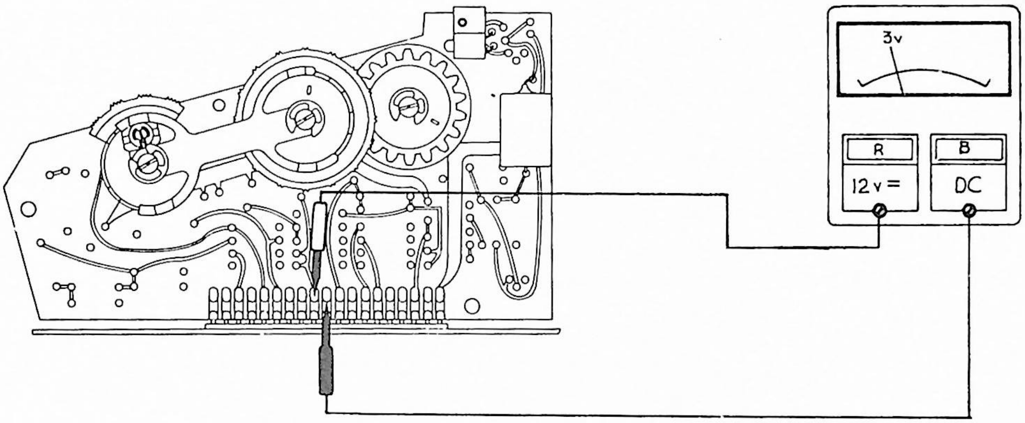
Continue with DIAGNOSTIC CHART procedure

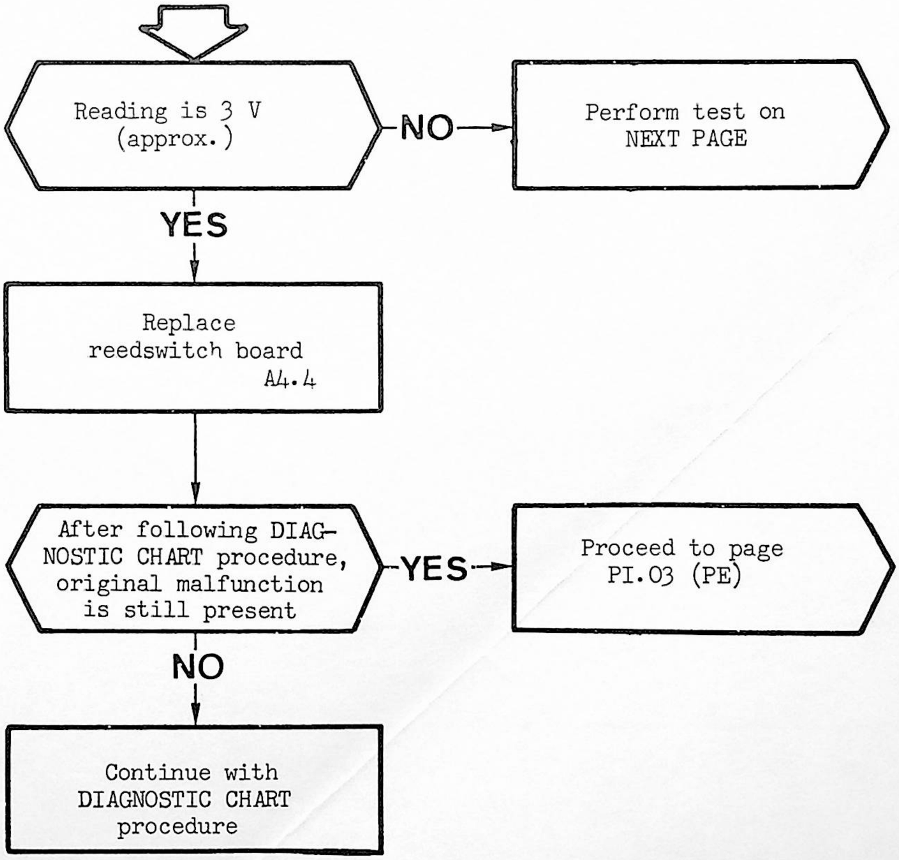
TEST I1003

AC REEDSWITCH

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Ensure that screen of AC reedswitch covers magnet roll completely (A7.1)
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



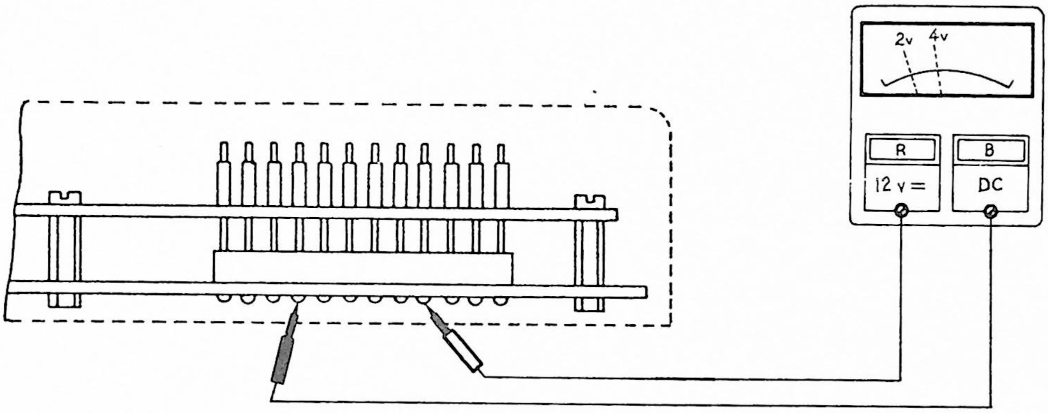

Reading is 3 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

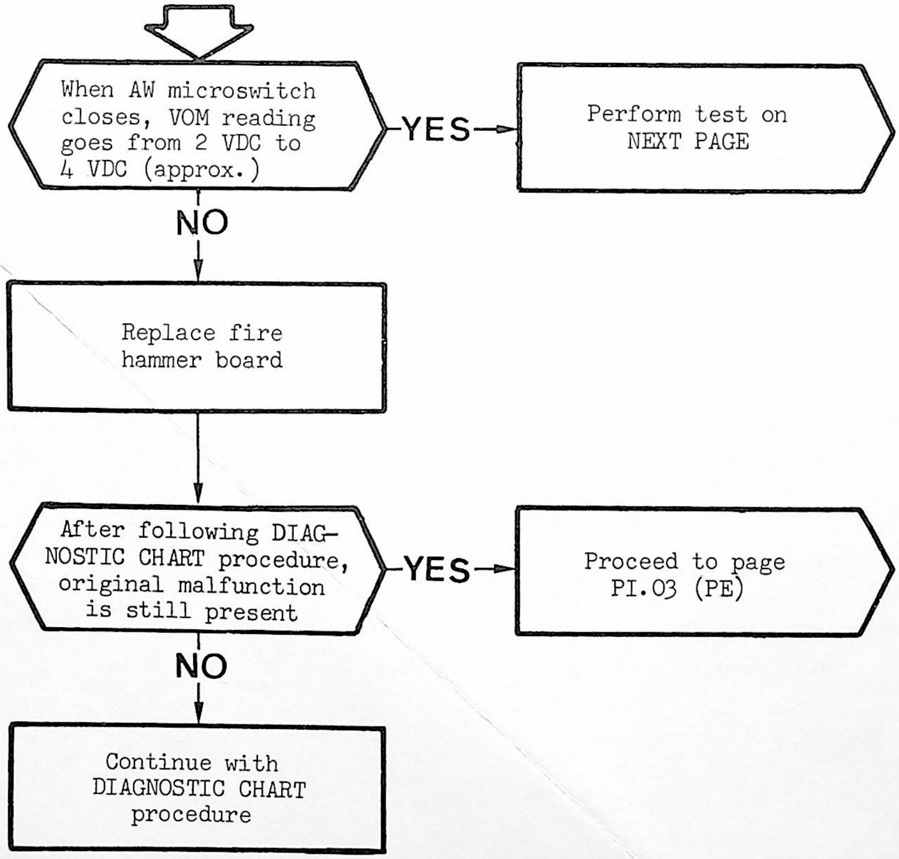
TEST
I1011

AW SIGNAL

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - With a screwdriver, close AW microswitch
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




When AW microswitch closes, VOM reading goes from 2 VDC to 4 VDC (approx.)
YES
Perform test on NEXT PAGE
NO
Replace fire hammer board
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

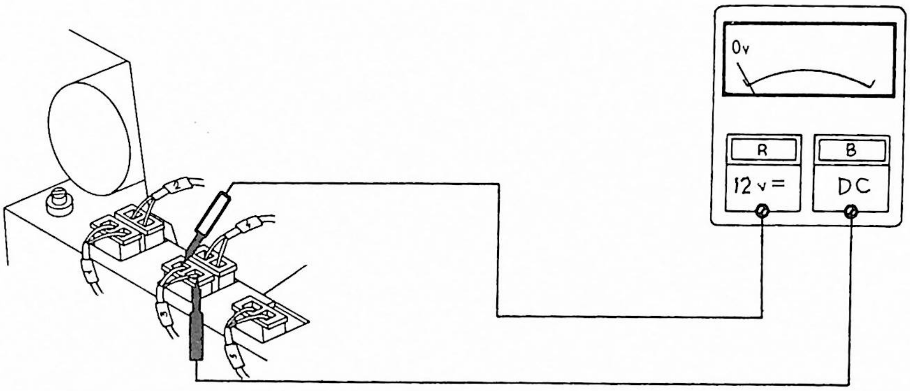
TEST

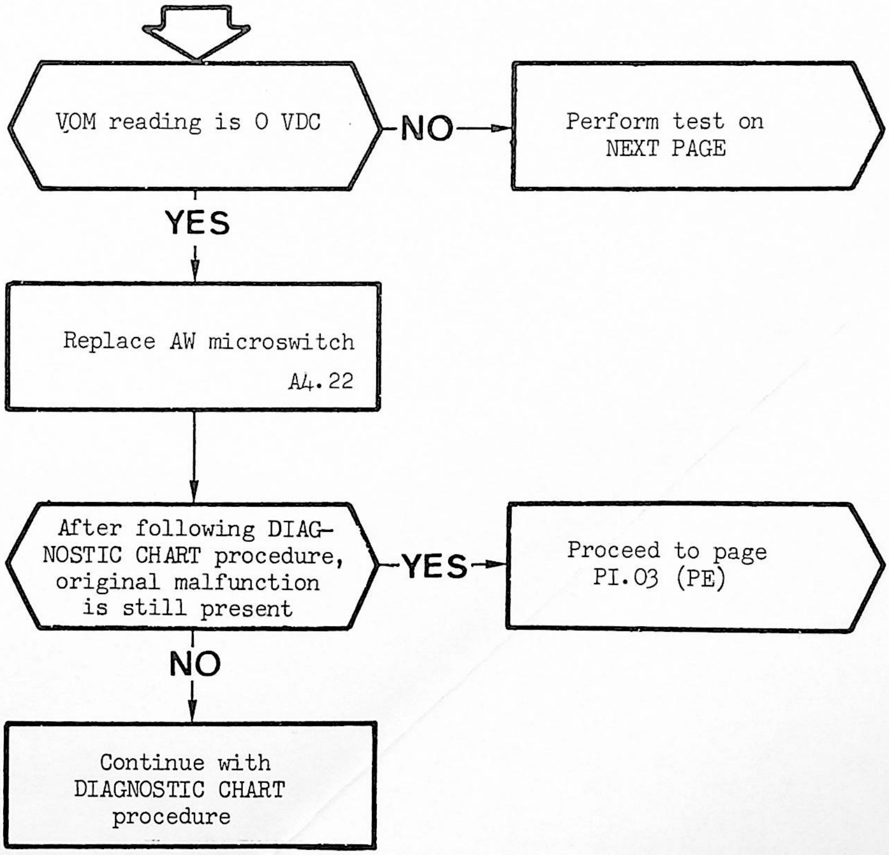
I1028

AW MICROSWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Manually move carriage away from its rest position, until AW microswitch closes
3 - Insert line cord and turn power switch on
4 - Set VOM for a DC voltage measurement (scale 12V DC)
5 - Perform test as shown in figure (ensure that fastons shown make good contact)





VOM reading is 0 VDC

NO → Perform test on NEXT PAGE

YES ↓

Replace AW microswitch
A4.22

↓

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

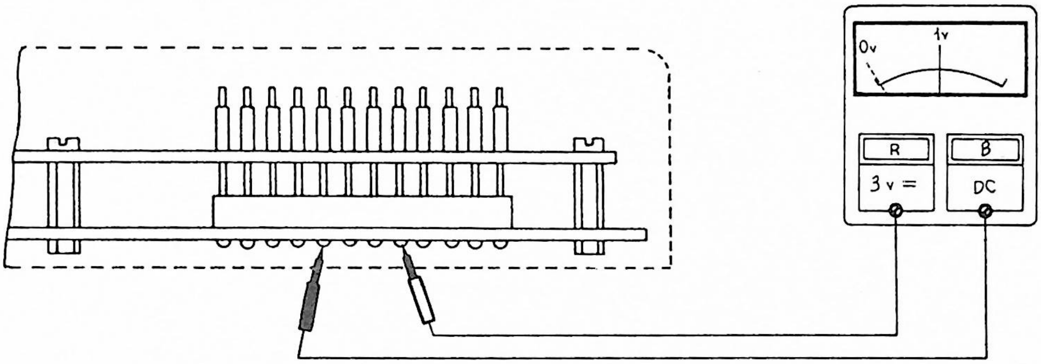
Continue with DIAGNOSTIC CHART procedure

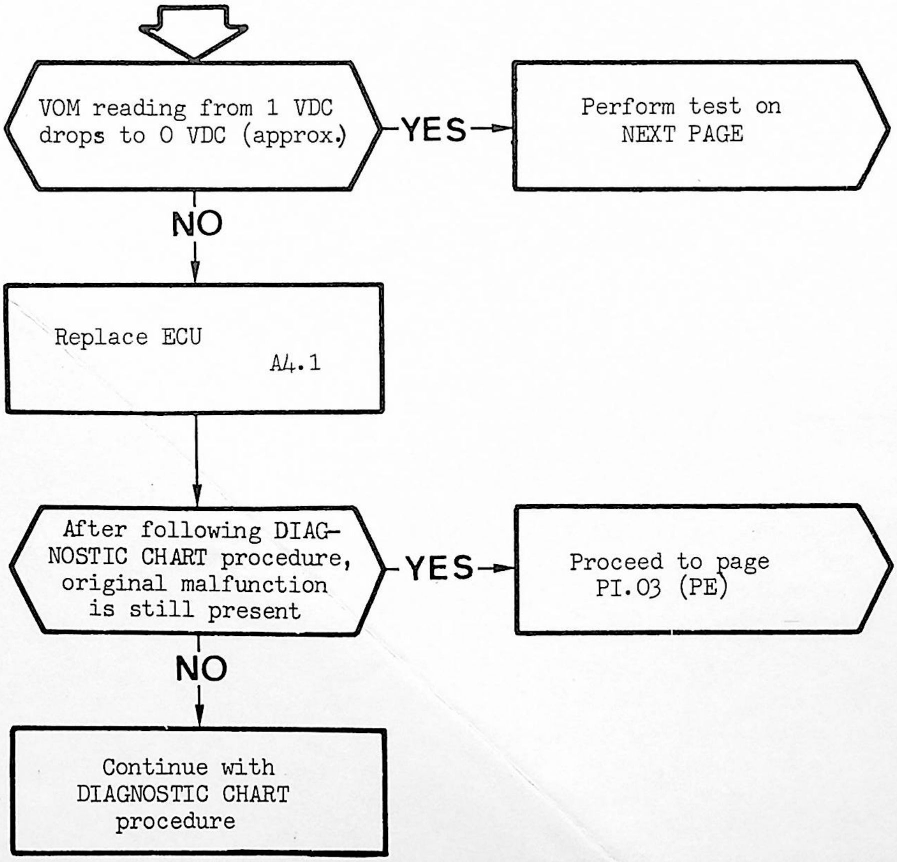
TEST
I1032

SIGNAL VRC (PRINTER SOLENOID)

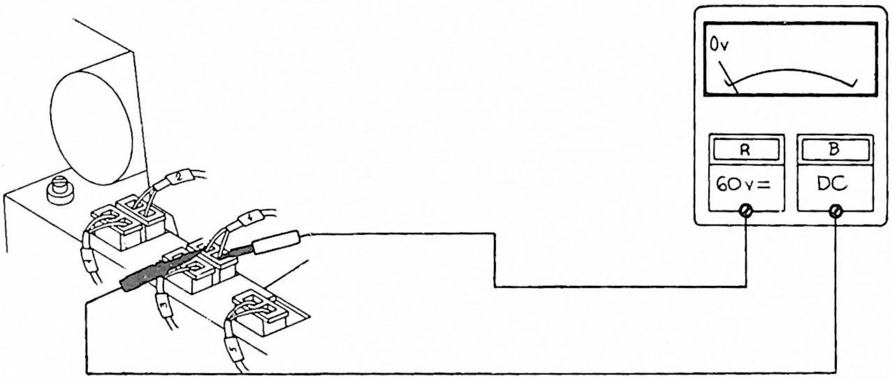
PRELIMINARY OPERATIONS

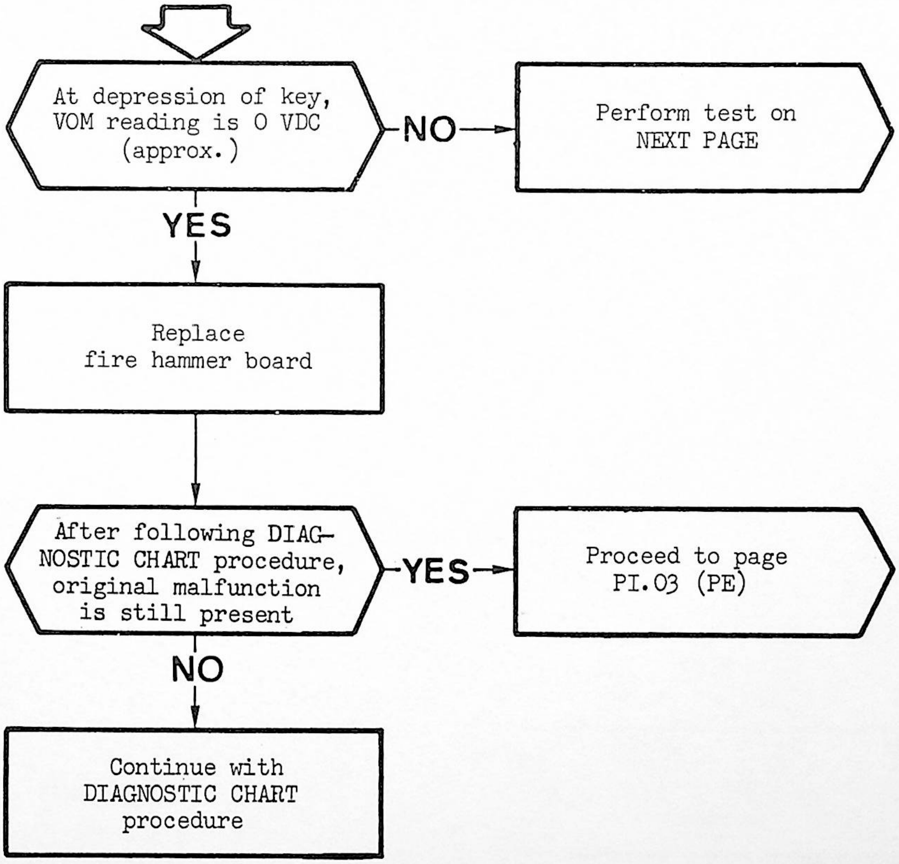
1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Depressing the first register total key T1, perform test as shown in figure (ensure that fastons shown make good contact)



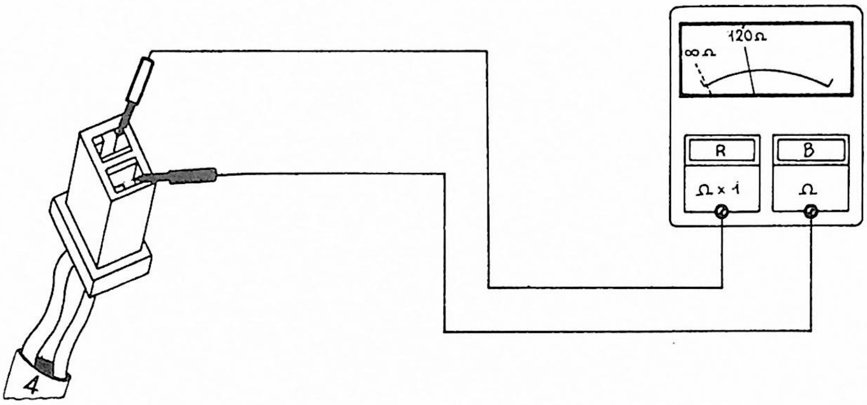

VOM reading from 1 VDC drops to 0 VDC (approx.)
YES
Perform test on NEXT PAGE
NO
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

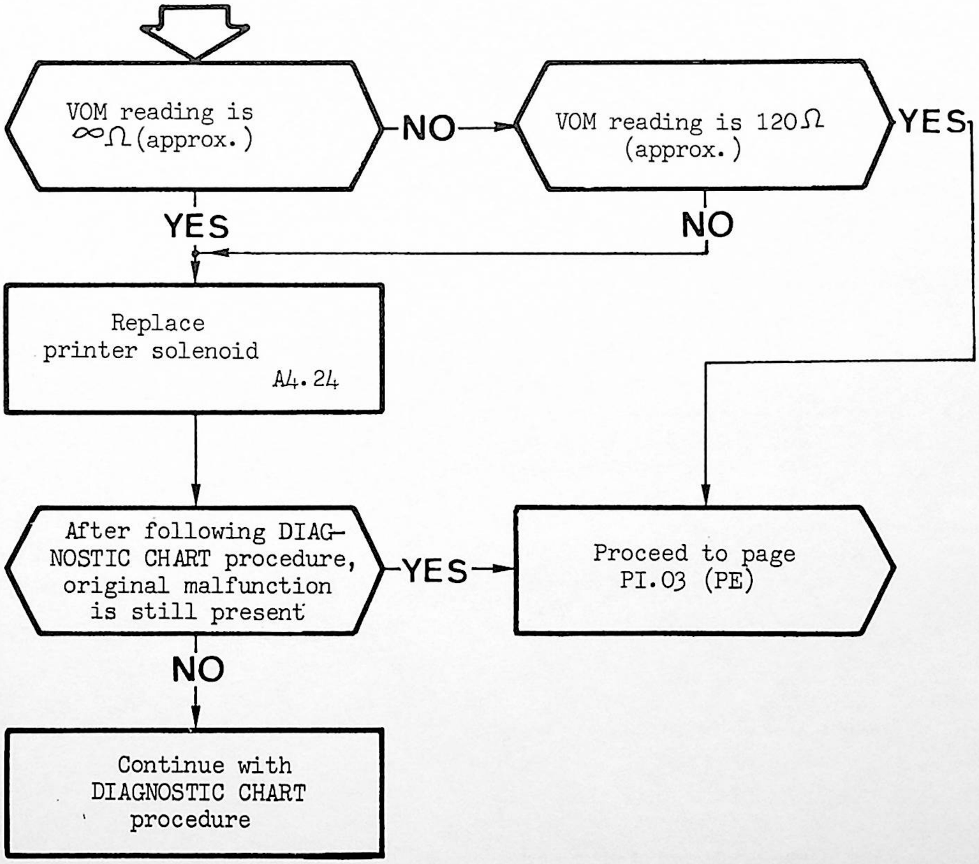
TEST **I1041**	SIGNAL VRC (PRINTER SOLENOID)
PRELIMINARY OPERATIONS	1 - Insert line cord and turn power switch on 2 - Set VOM for a DC voltage measurement (scale 60V DC) 3 - Depressing first register total key T1, perform test as shown in figure (ensure that fastons shown make good contact)




At depression of key, VOM reading is 0 VDC (approx.)
NO
Perform test on NEXT PAGE
YES
Replace fire hammer board
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST I1058	PRINTER SOLENOID
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove faston 4 of printer solenoid 3 - Set VOM for a continuity check (scale Ω x 1) 4 - Perform test as shown in figure




VOM reading is ∞Ω (approx.)
NO
VOM reading is 120Ω (approx.)
YES
YES
NO
Replace printer solenoid A4.24
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

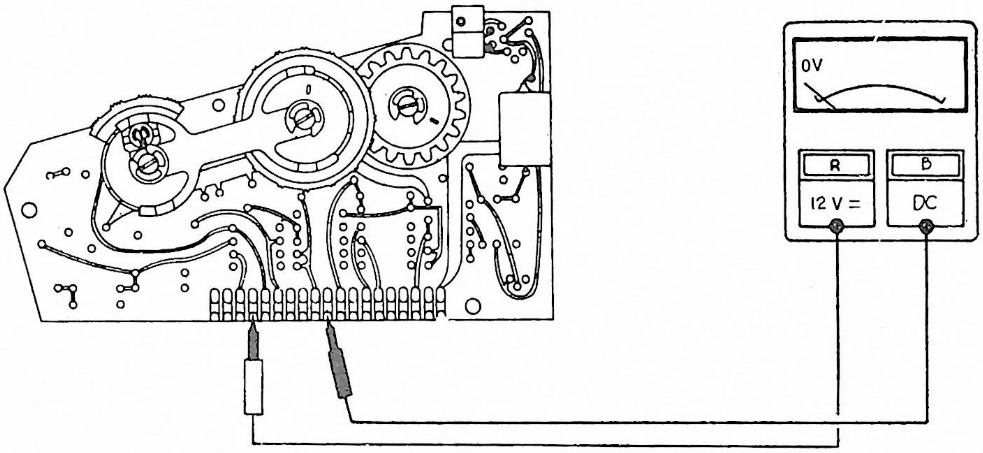
TEST

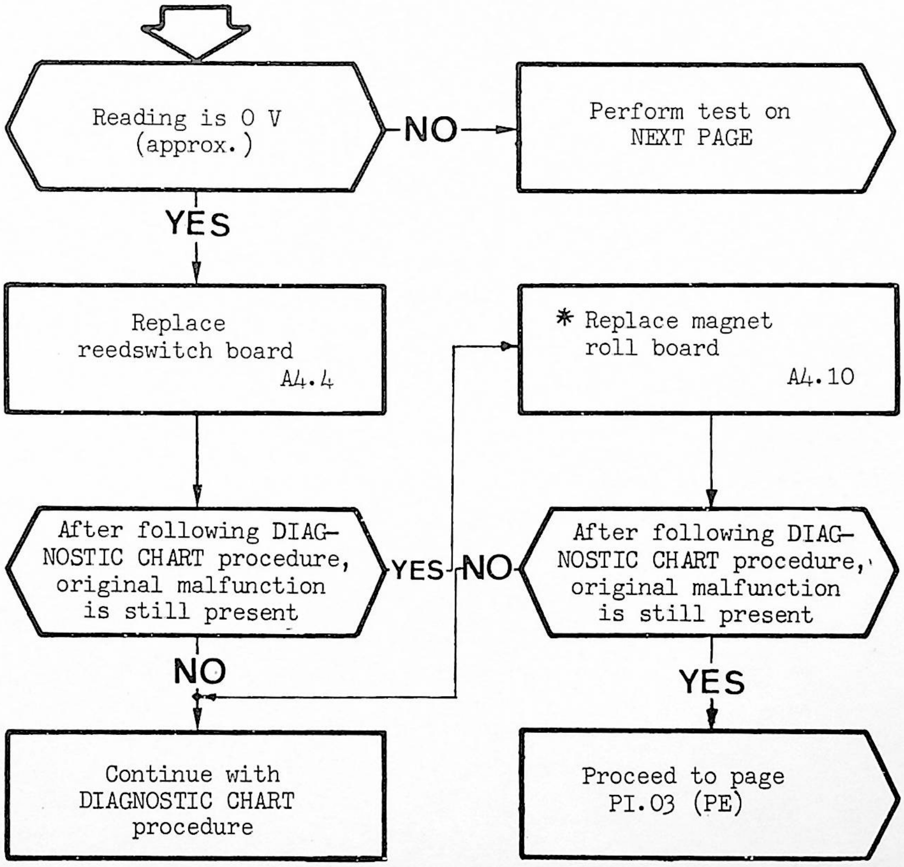
12003
12003*

REEDSWITCH AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure, taking care to manually remove screen of AF reedswitch from its magnet roll



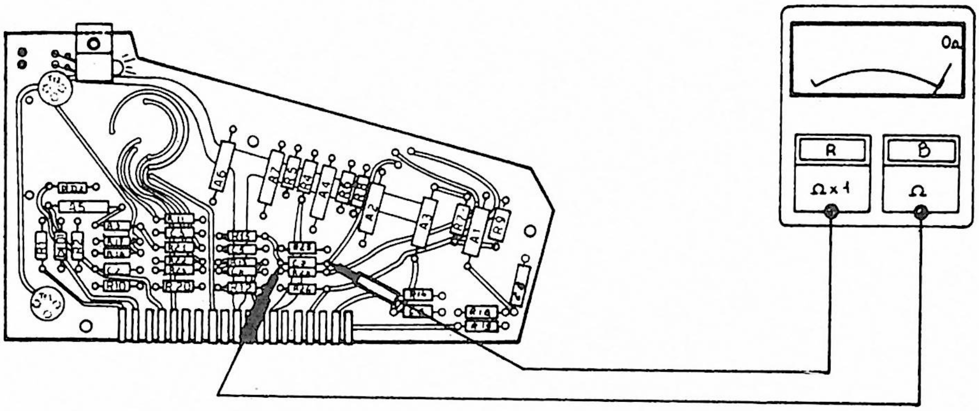

Reading is 0 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
* Replace magnet roll board A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

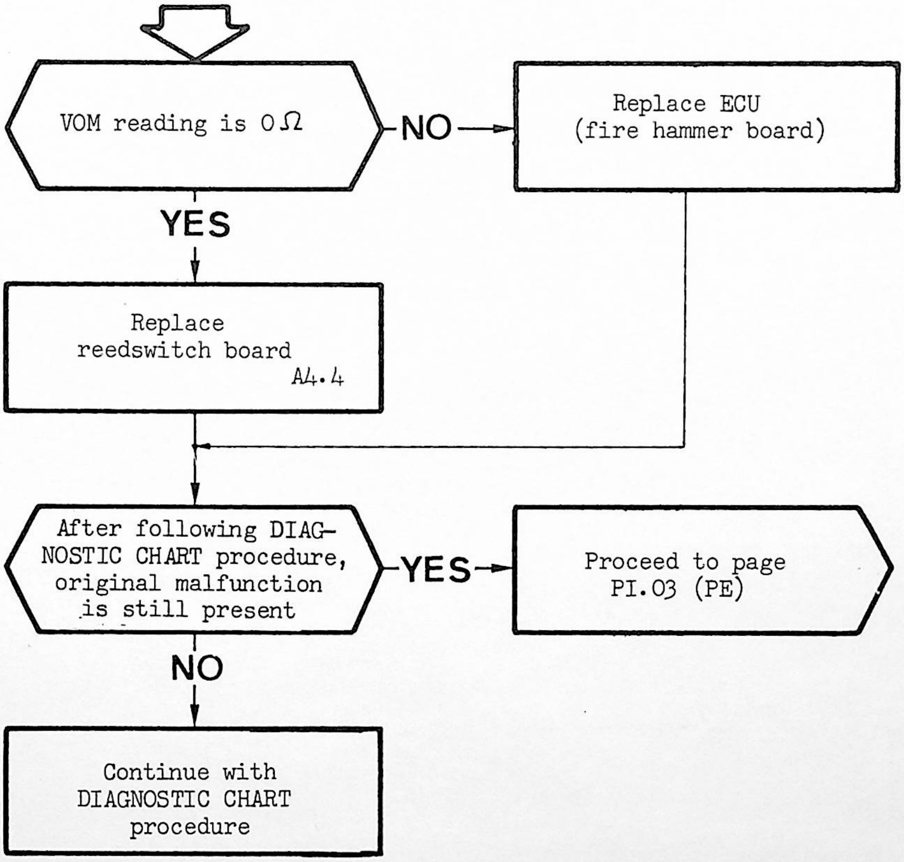
TEST 12013

CAPACITOR C7

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure





VOM reading is 0 Ω

NO → Replace ECU (fire hammer board)

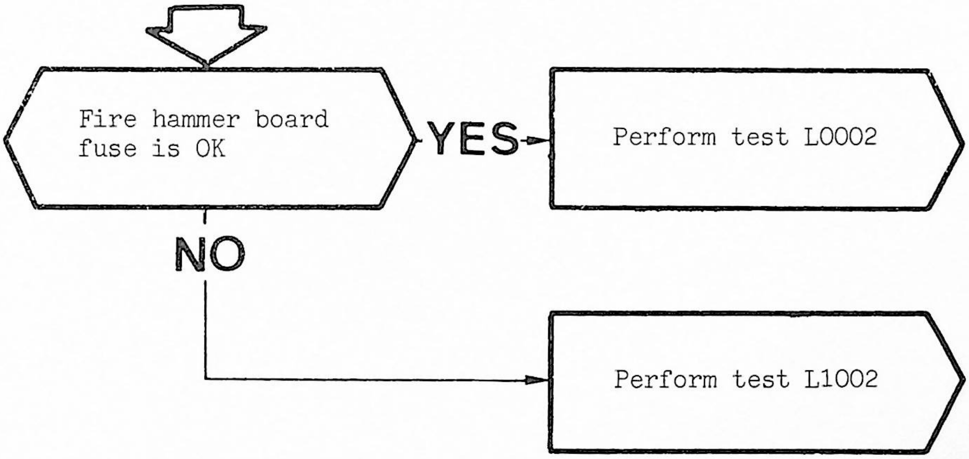
YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO → Continue with DIAGNOSTIC CHART procedure

EXIT L	MACHINE DOES NOT PRINT - CARRIAGE PERFORMS THE CORRECT TRAVEL AND RETURNS TO ITS REST POSITION
MECHANICAL CHECKS	- Check AW microswitch = A3.18 - Check striking power of fire hammer = A3.23 - Check position of pickup coil = A3.17

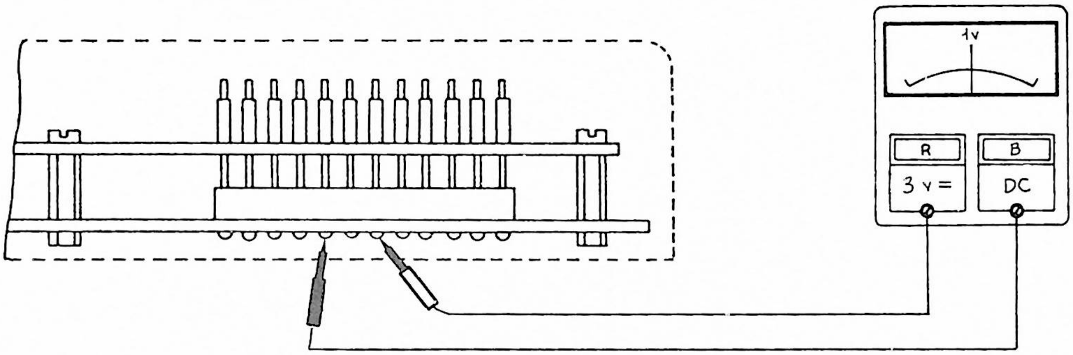


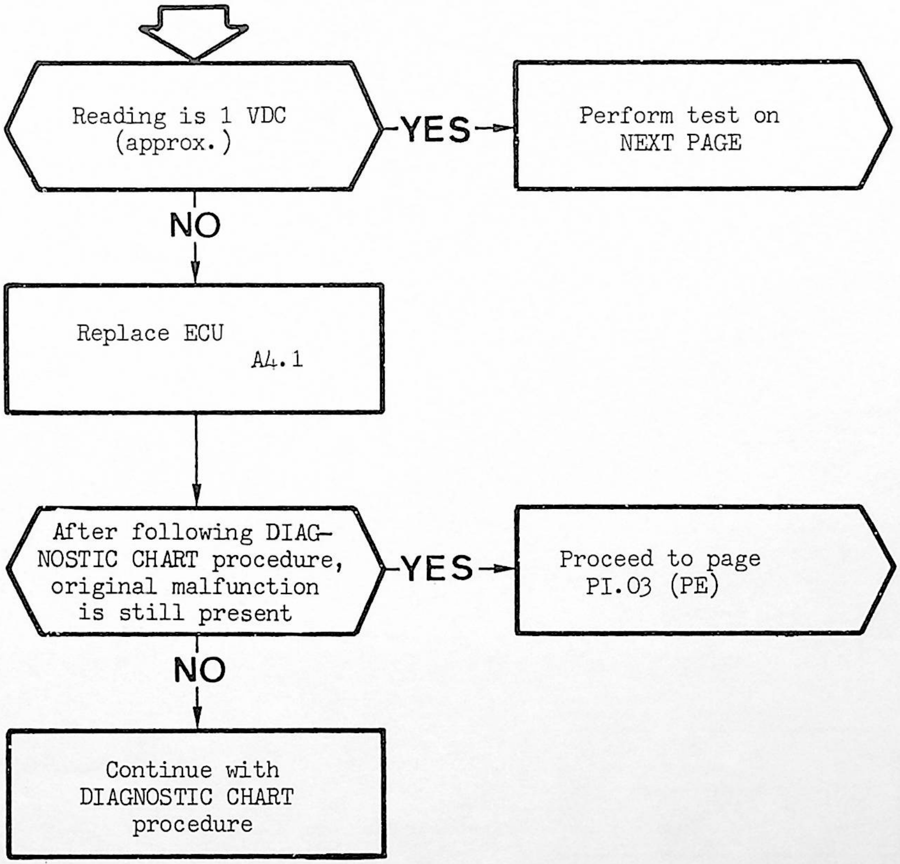
TEST L0002

CHECK FIRE HAMMER BOARD CIRCUIT

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 1 VDC (approx.)

YES → Perform test on NEXT PAGE

NO → Replace ECU A4.1

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

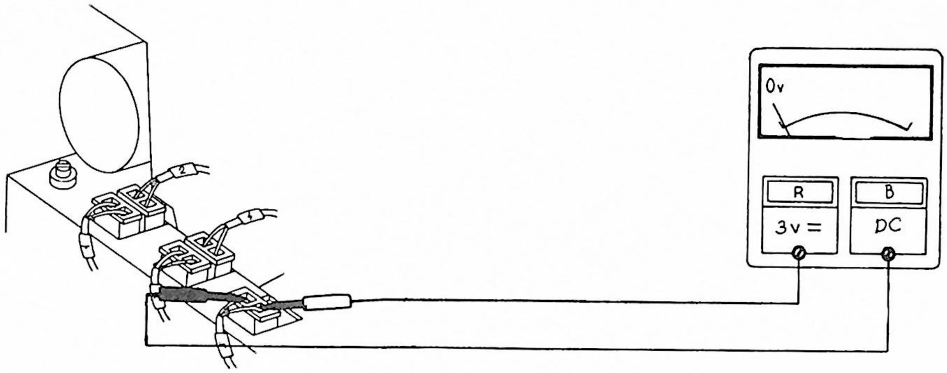
NO → Continue with DIAGNOSTIC CHART procedure

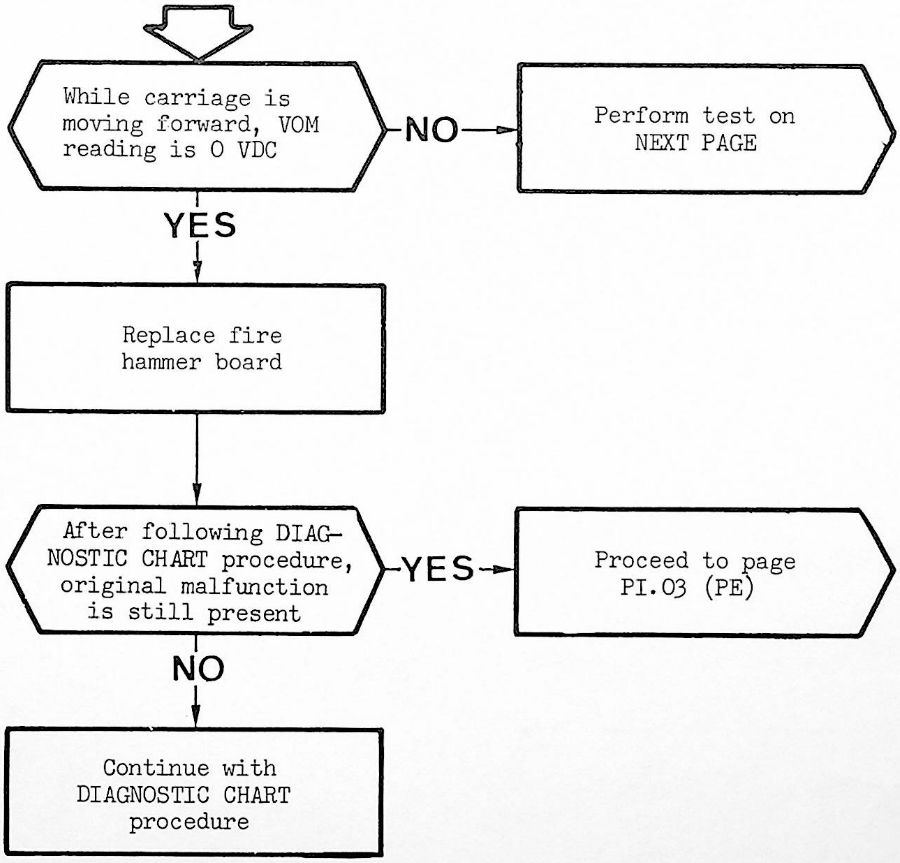
TEST L0011

SIGNAL "SPM" (FIRE HAMMER)

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Enter 2222222222, depress plus key of 2nd register, and perform test as shown in figure (ensure that fastons shown make good contact)




While carriage is moving forward, VOM reading is 0 VDC
NO
Perform test on NEXT PAGE
YES
Replace fire hammer board
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

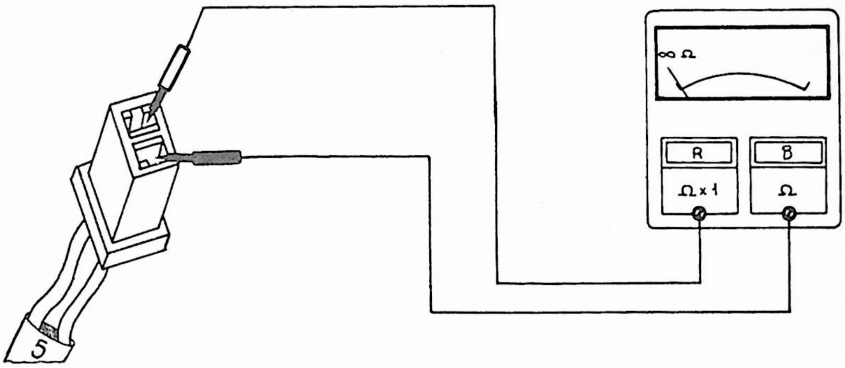
TEST

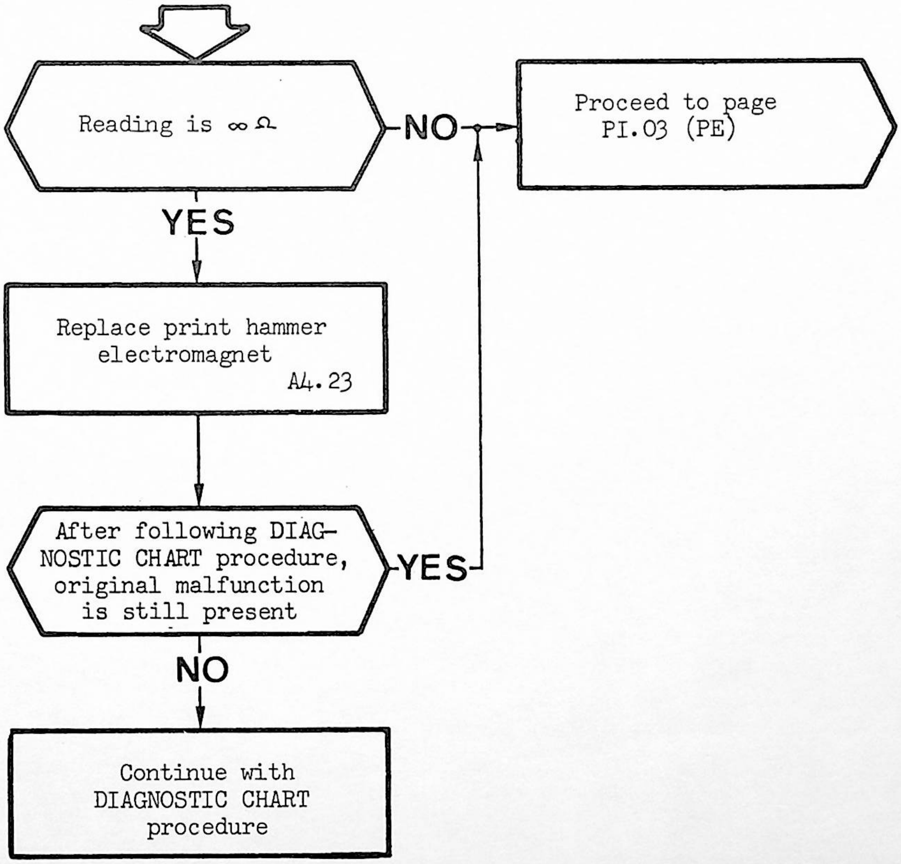
L0028

PRINT ELECTROMAGNET

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 5 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




Reading is ∞ Ω

Proceed to page PI.03 (PE)

Replace print hammer electromagnet A4.23

After following DIAGNOSTIC CHART procedure, original malfunction is still present

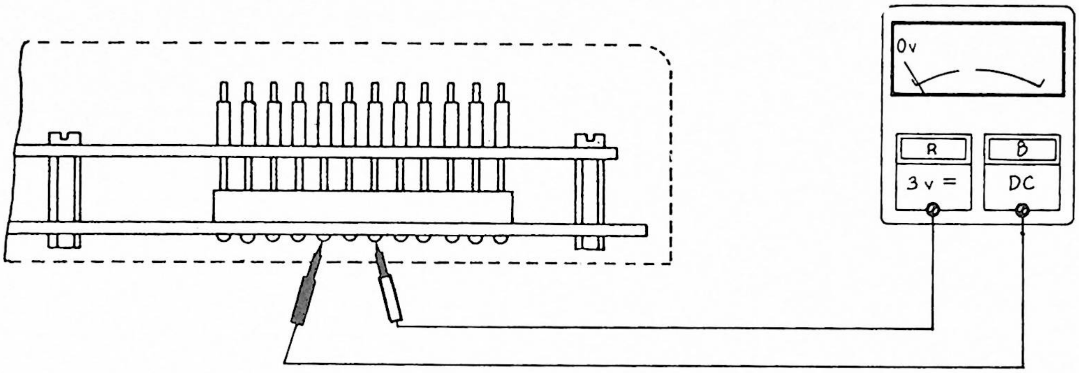
Continue with DIAGNOSTIC CHART procedure

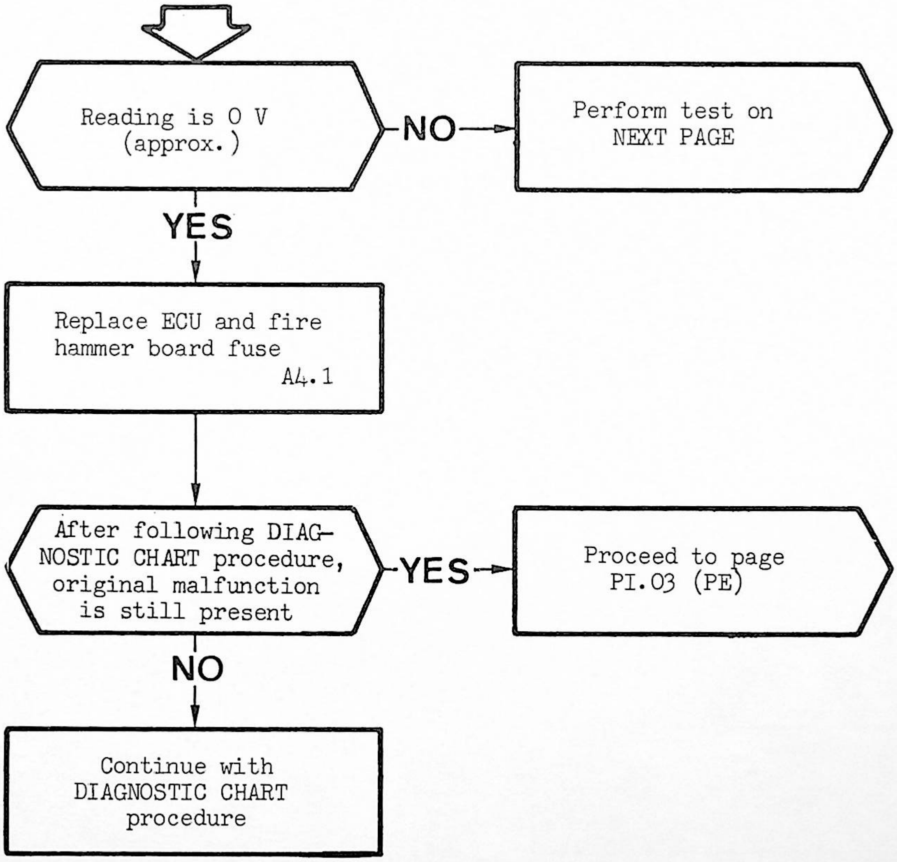
TEST L1002

FIRE HAMMER CIRCUIT

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 0 V (approx.)

Perform test on NEXT PAGE

Replace ECU and fire hammer board fuse
A4.1

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Proceed to page PI.03 (PE)

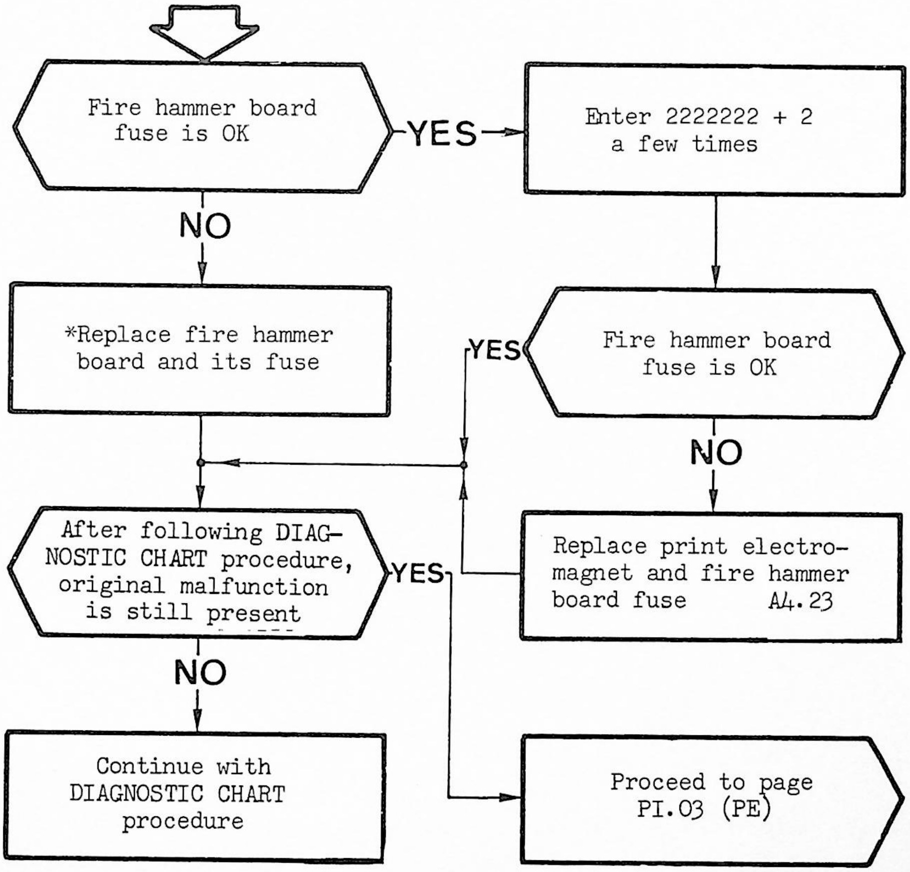
Continue with DIAGNOSTIC CHART procedure

TEST
L1011*
L1018

FIRE HAMMER CIRCUIT

PRELIMINARY OPERATIONS

1 - Replace fire hammer board fuse (750 mA)
2 - Insert line cord and turn power switch on



Fire hammer board fuse is OK
YES
Enter 2222222 + 2 a few times
NO
*Replace fire hammer board and its fuse
YES
Fire hammer board fuse is OK
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Replace print electromagnet and fire hammer board fuse A4.23
NO
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

EXIT
M

MACHINE DOES NOT PRINT - CARRIAGE GOES ALL THE WAY TO THE LEFT AND DOES NOT RETURN TO ITS REST POSITION

MECHANICAL CHECKS

- Check engagement of carriage movement rack = A3.12
- Check position of pickup coil = A3.17
- Check AW microswitch = A3.18

PERFORM TEST ON NEXT PAGE

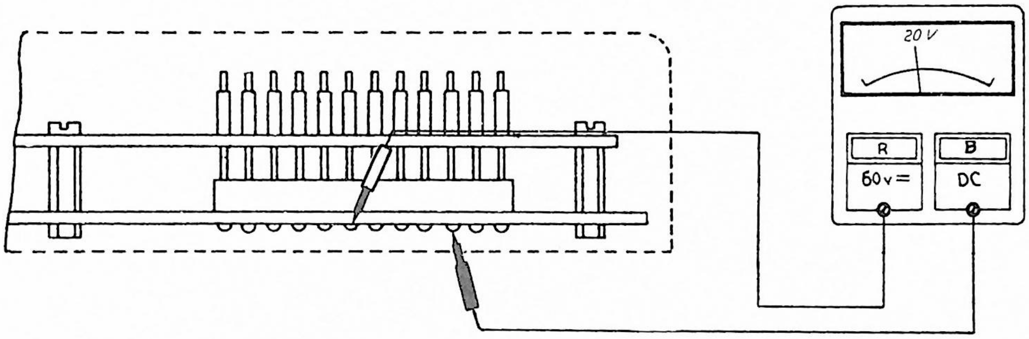
M

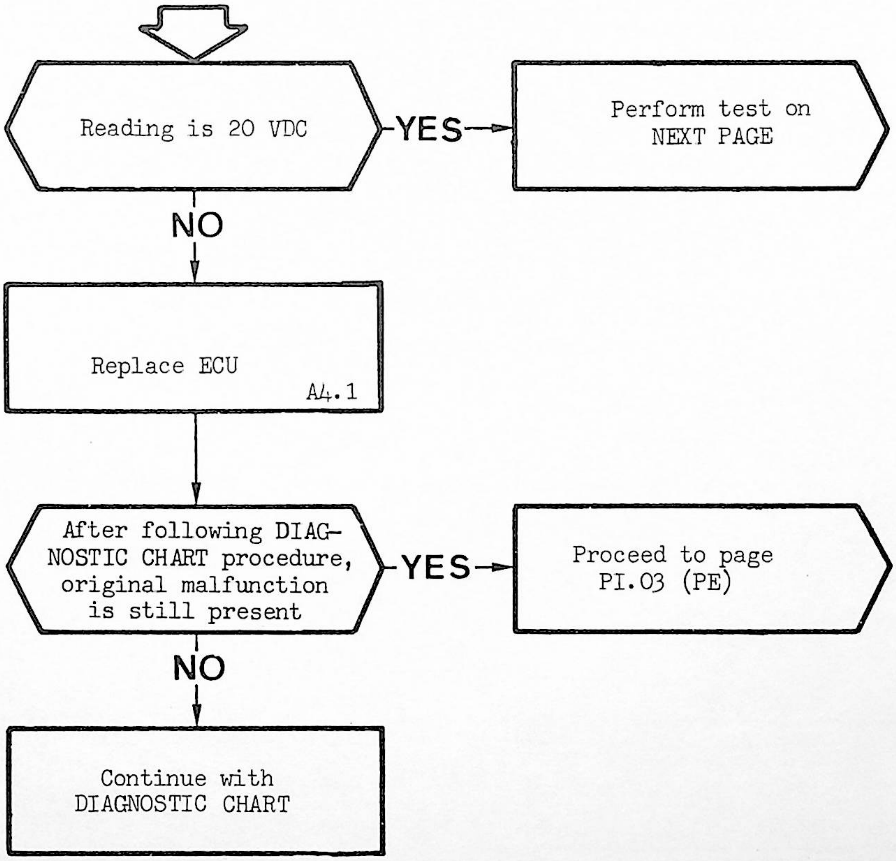
TEST M0002

SIGNAL OF THE STROBE

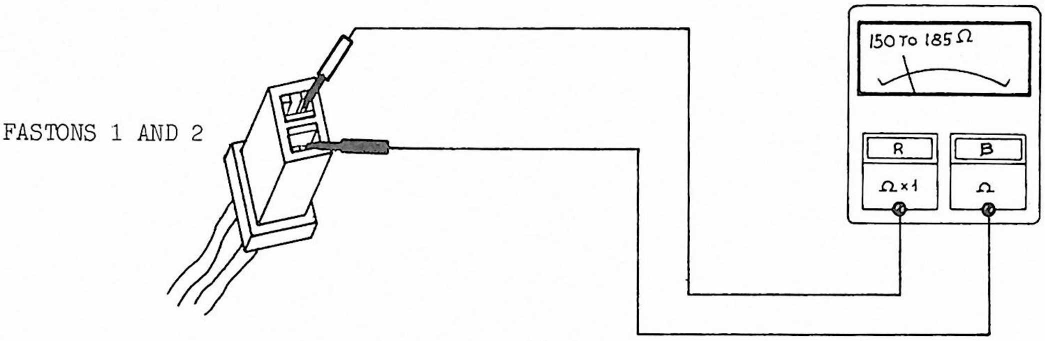
PRELIMINARY OPERATIONS

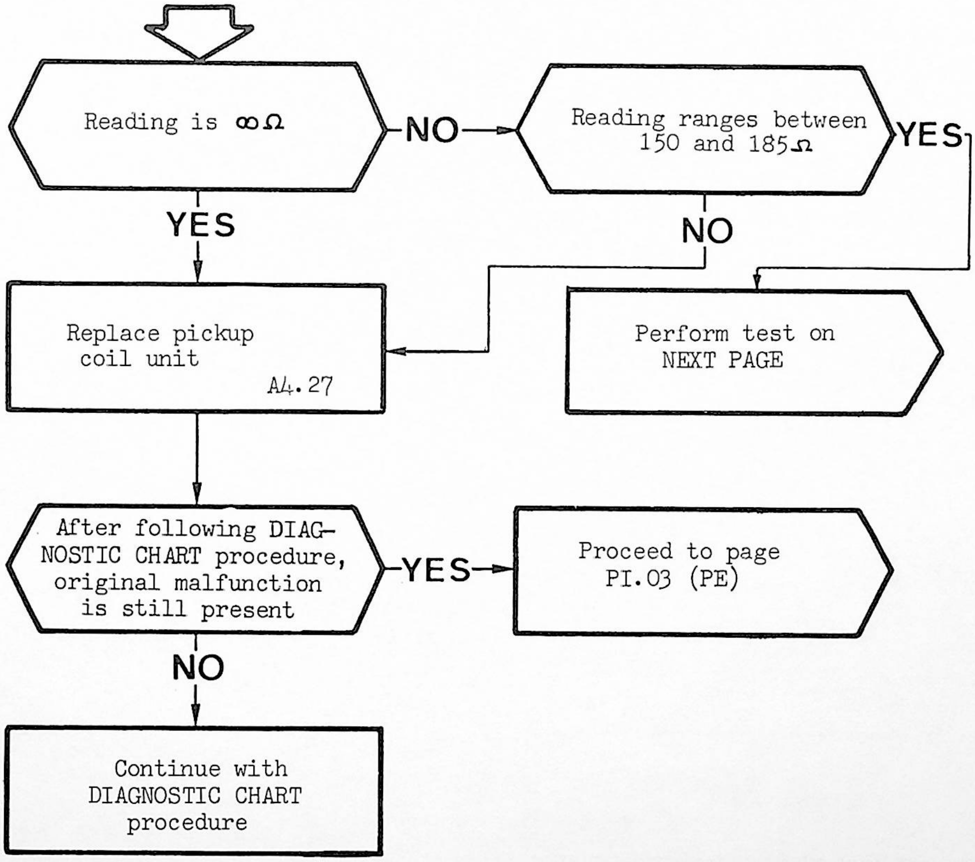
1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 60V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 20 VDC
YES
Perform test on NEXT PAGE
NO
Replace ECU
A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART

TEST M0018	PICKUP COIL EFFICIENCY
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Disconnect fastons 1 and 2 from fire hammer board 3 - Set VOM for a continuity check (scale Ω x 1) 4 - Perform test as shown in figure, first on faston 1, then on faston 2



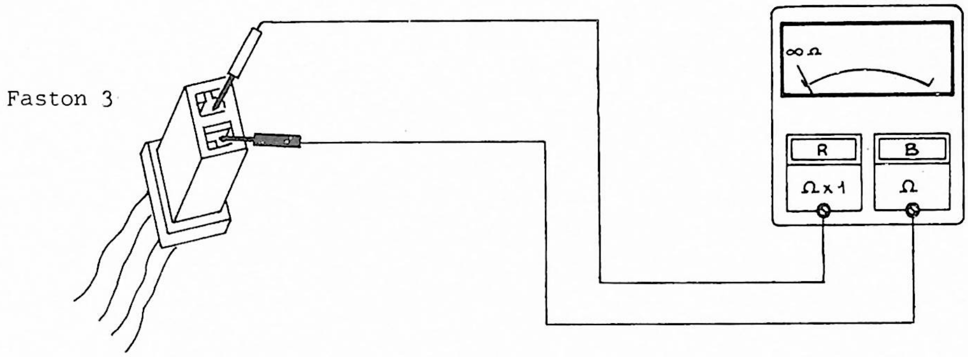

Reading is ∞Ω
NO
Reading ranges between 150 and 185Ω
YES
YES
NO
Replace pickup coil unit
A4.27
Perform test on NEXT PAGE
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

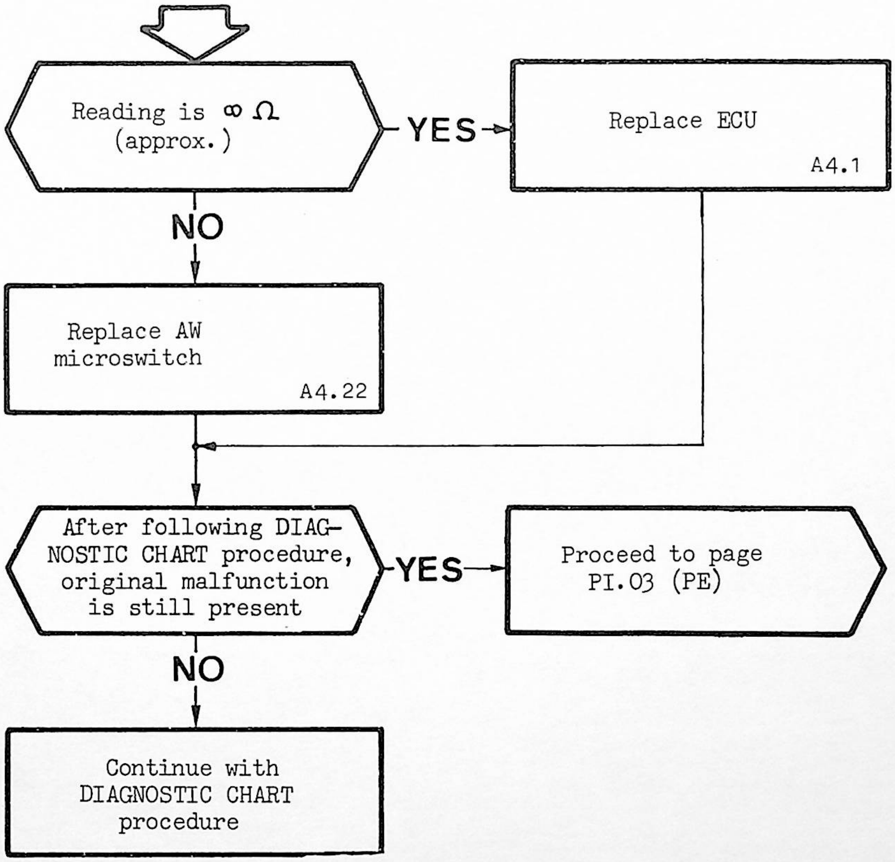
TEST M0028

EFFICIENCY OF AW MICROSWITCH

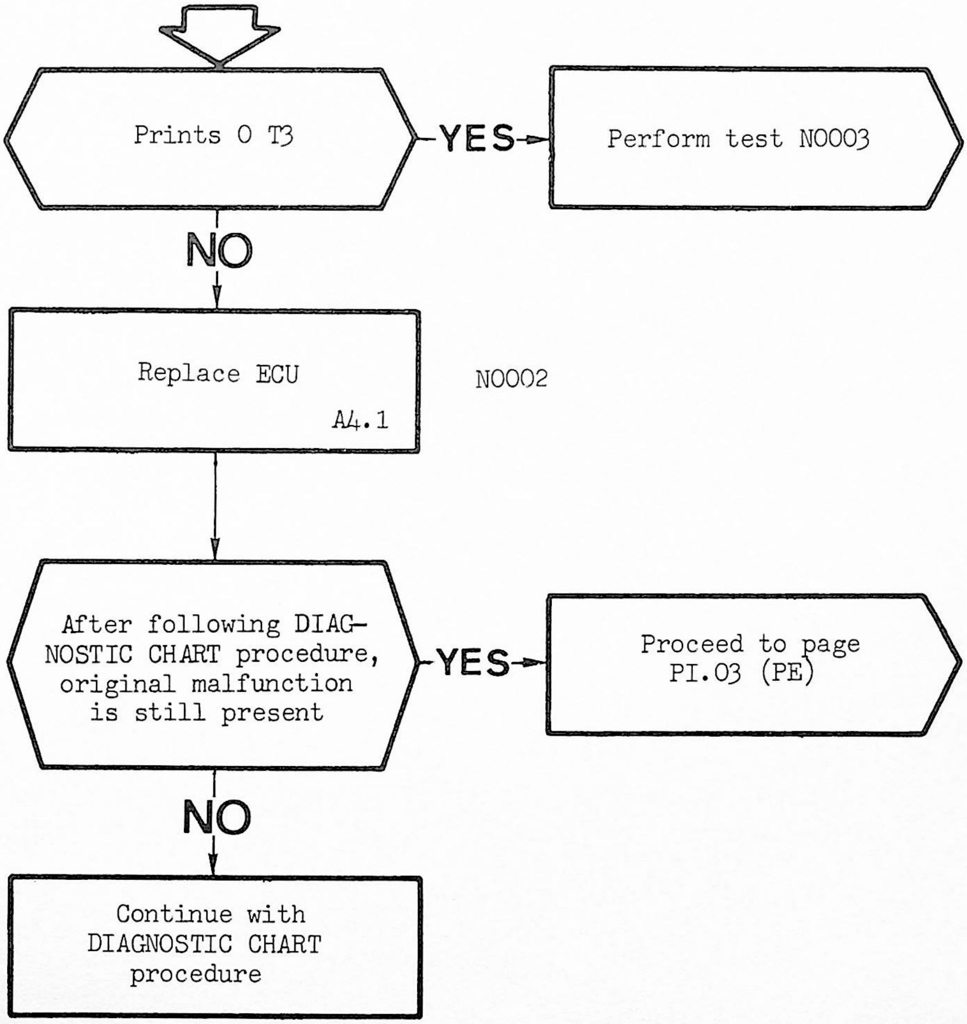
PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 3 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Push AW microswitch plunger in, and perform test as shown in figure




Reading is ∞ Ω (approx.)
YES
Replace ECU
A4.1
NO
Replace AW microswitch
A4.22
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT **N**	DURING ENTRY OPERATION, MACHINE PRINTS
MECHANICAL CHECKS	- Check that reedswitch screens are covering magnets properly - Check angular position of rear setting bail = A3.31 - Check angular position of front setting bail = A3.32 - Check coding bar lock mechanism = A3.35 - Check position of pickup coil = A3.17

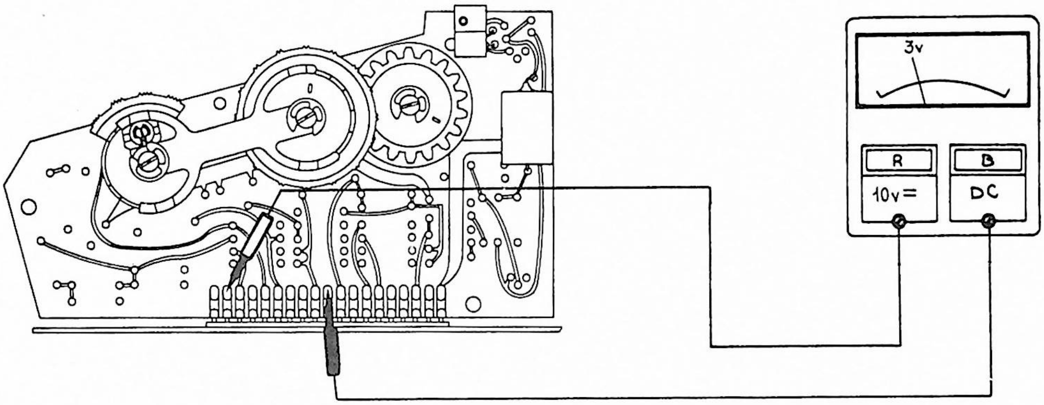

Prints 0 T3
YES
Perform test N0003
NO
Replace ECU
A4.1
N0002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

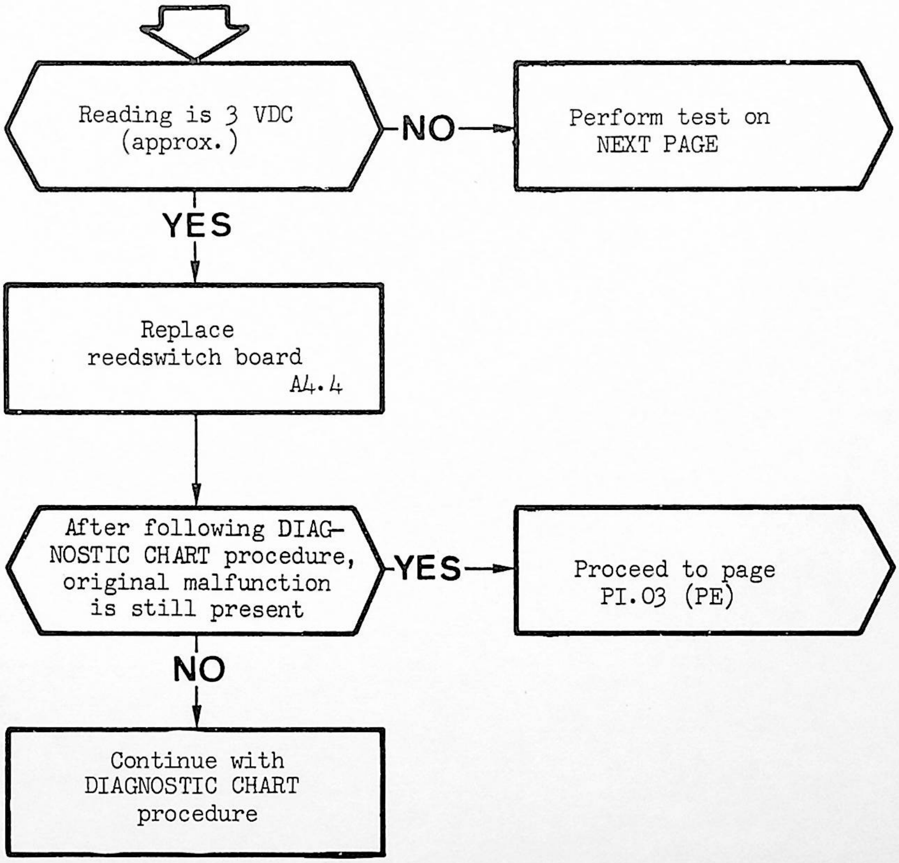
TEST N0003

REEDSWITCH AE

PRELIMINARY OPERATIONS

1 - Ensure that screen of AE reedswitch covers its magnet roll completely (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 3 VDC (approx.)

NO → Perform test on NEXT PAGE

YES ↓

Replace reedswitch board A4.4

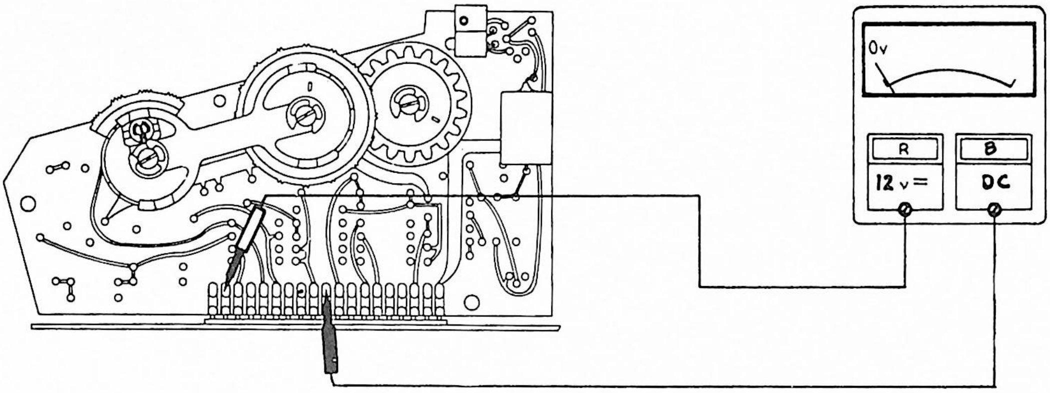
After following DIAGNOSTIC CHART procedure, original malfunction is still present

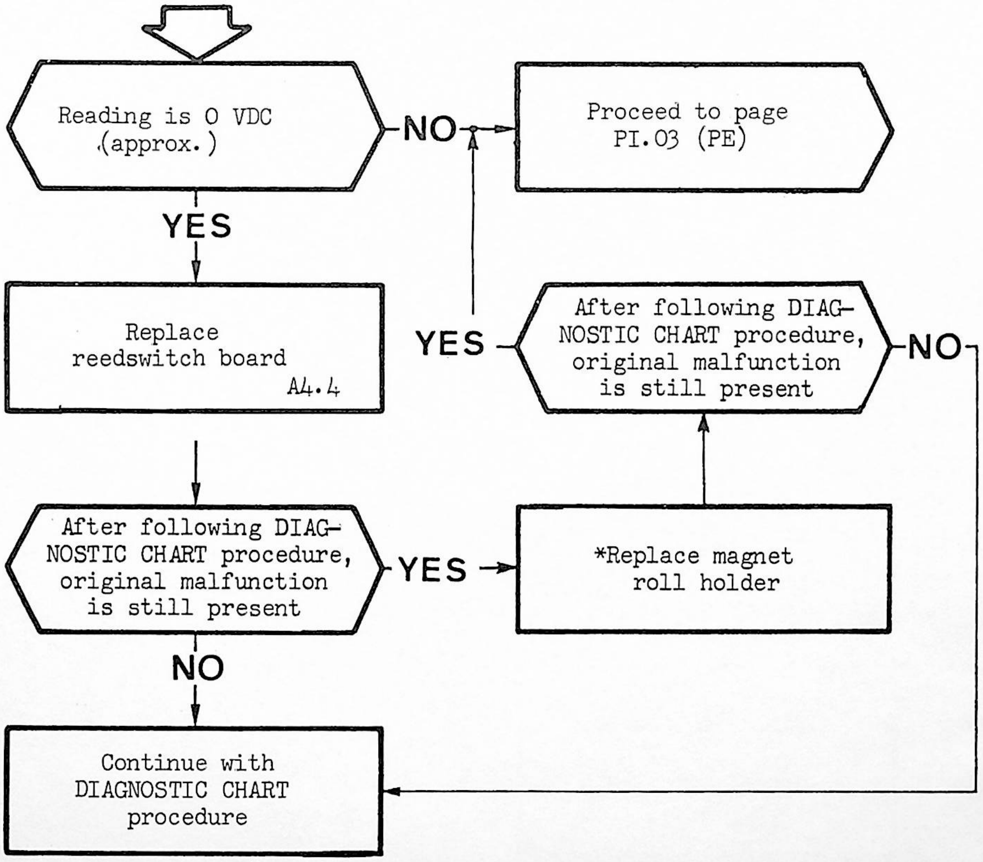
YES → Proceed to page PI.03 (PE)

NO ↓

Continue with DIAGNOSTIC CHART procedure

TEST N0013 N0013*	SIGNAL AE
PRELIMINARY OPERATIONS	1 - Manually move screen of AE reedswitch clear of its magnet roll (A7.1) 2 - Insert line cord and turn power switch on 3 - Set VOM for a DC voltage measurement (scale 12V DC) 4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 0 VDC (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace reedswitch board A4.4
YES
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
*Replace magnet roll holder
NO
Continue with DIAGNOSTIC CHART procedure

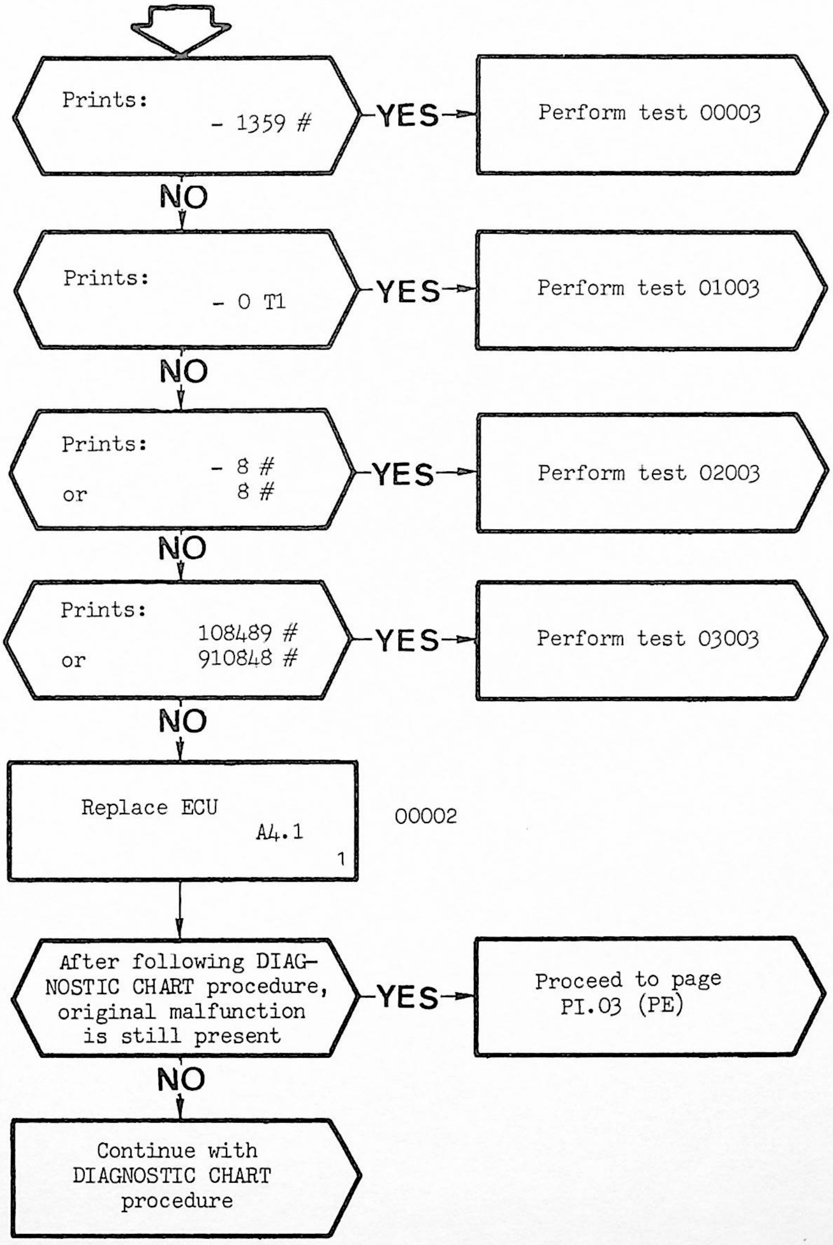
EXIT

O

MACHINE DOES NOT PRINT - 12.48 #

MECHANICAL CHECKS

- Check that reedswitch screens are covering magnets properly
- Check angular position of rear setting bail = A3.31
- Check angular position of front setting bail = A3.32
- Check AW microswitch = A3.18
- Check coding bar lock mechanism = A3.35
- Check position of pickup coil = A3.17

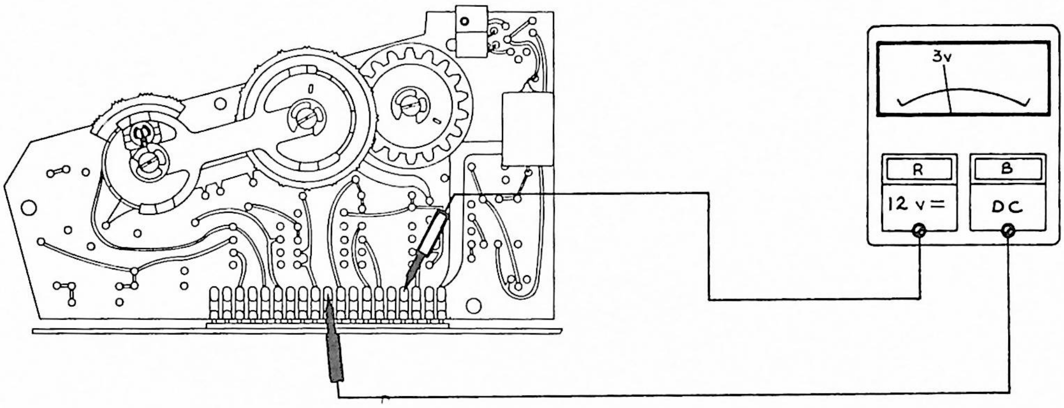

Prints: - 1359 #
YES
Perform test 00003
NO
Prints: - 0 T1
YES
Perform test 01003
NO
Prints: - 8 # or 8 #
YES
Perform test 02003
NO
Prints: 108489 # or 910848 #
YES
Perform test 03003
NO
Replace ECU A4.1
1
00002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

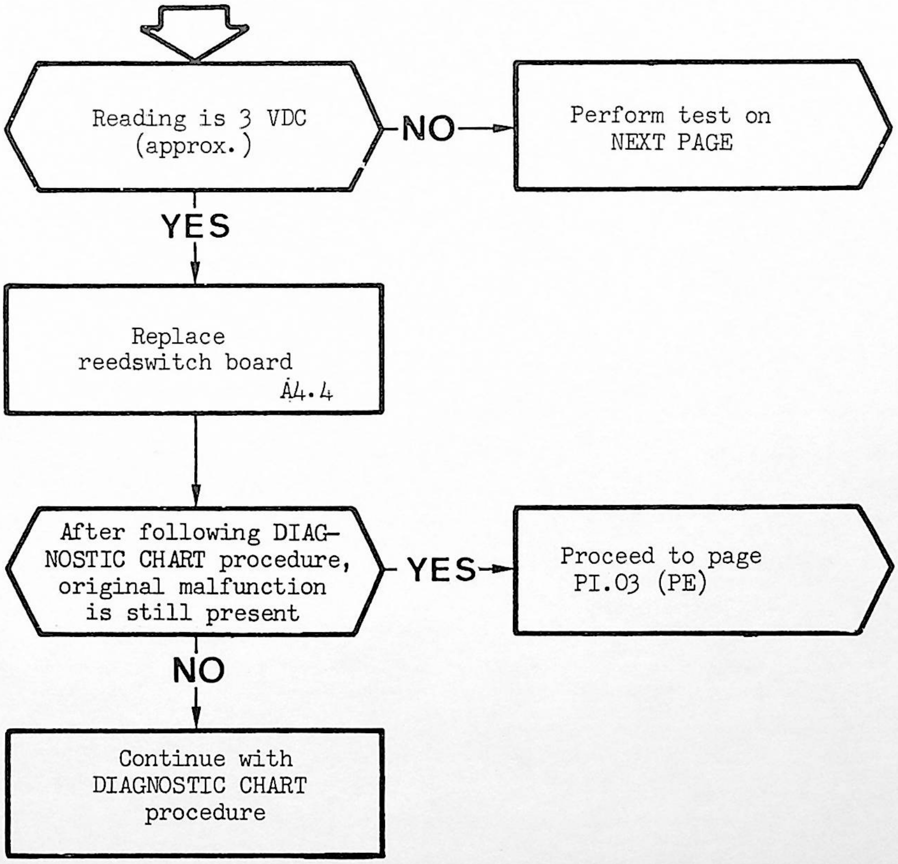
TEST
O0003

REEDSWITCH AA

PRELIMINARY OPERATIONS

1 - Ensure that screen of AA reedswitch completely covers its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



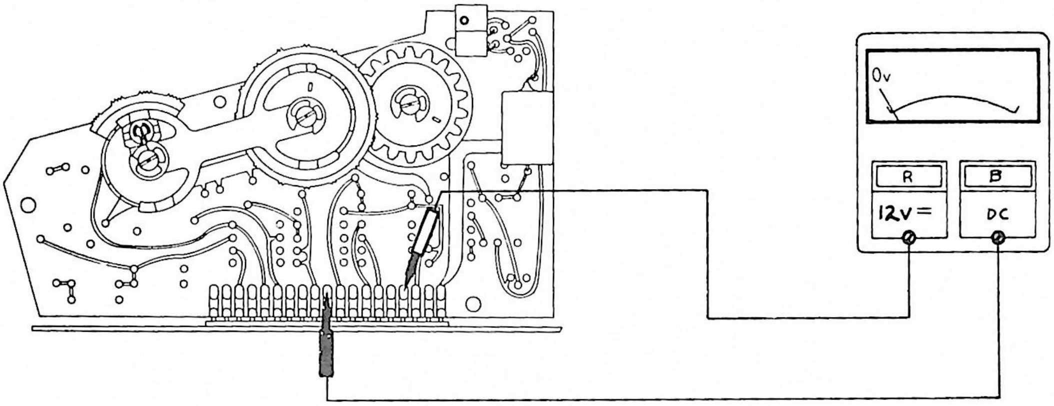

Reading is 3 VDC (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

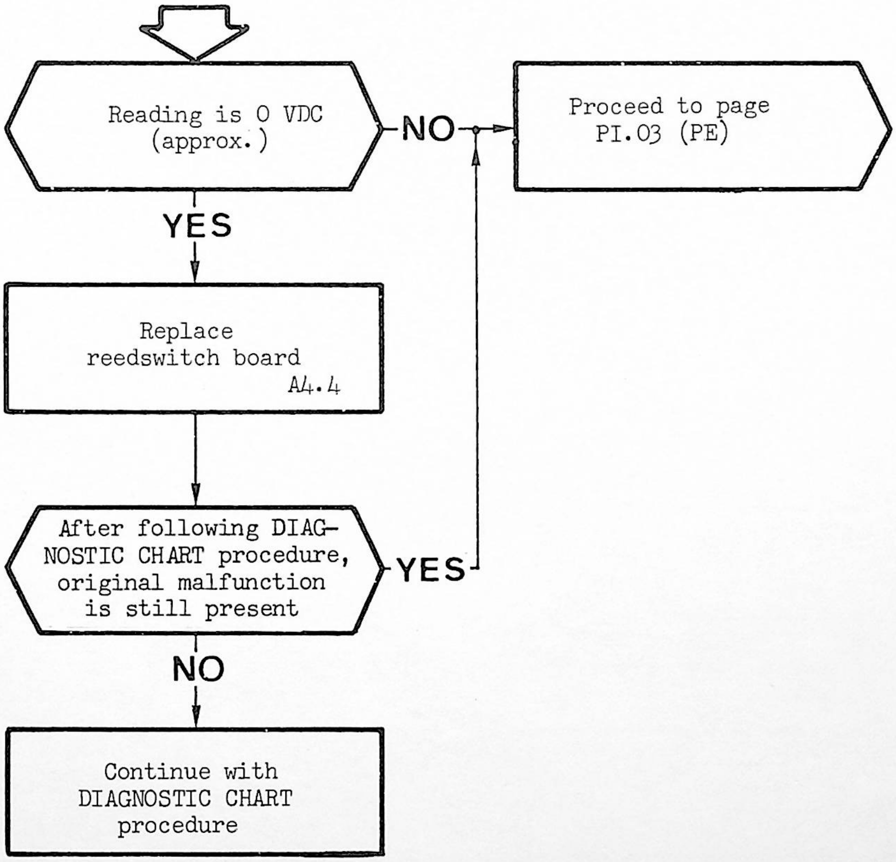
TEST
00013

SIGNAL AA

PRELIMINARY OPERATIONS

1 - Manually move screen of reedswitch AA completely clear of its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 0 VDC (approx.)

NO

Proceed to page PI.03 (PE)

YES

Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES

NO

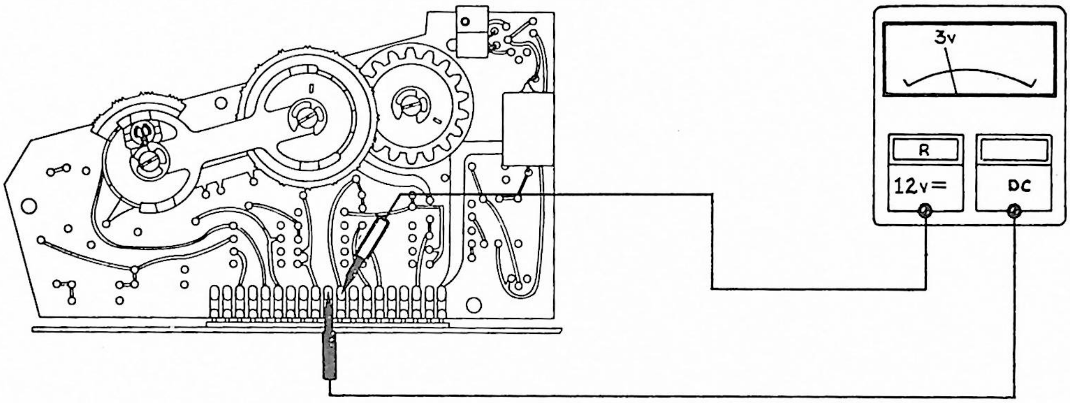
Continue with DIAGNOSTIC CHART procedure

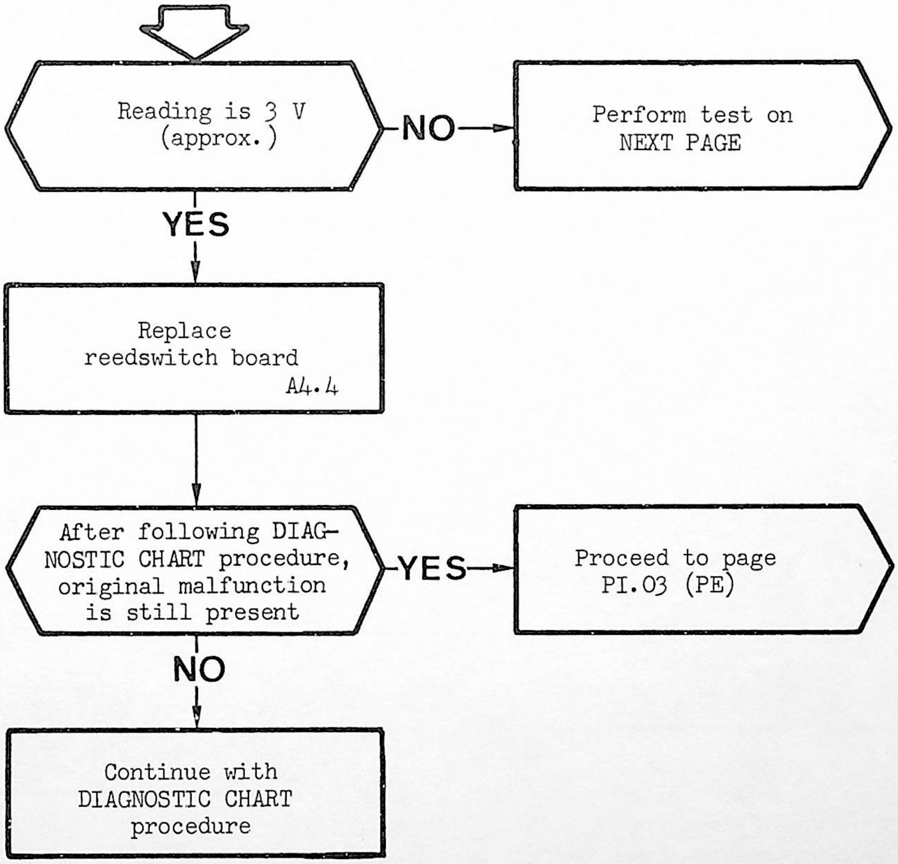
TEST
O1003

REEDSWITCH AB

PRELIMINARY OPERATIONS

1 - Ensure that screen of AB reedswitch completely covers its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure



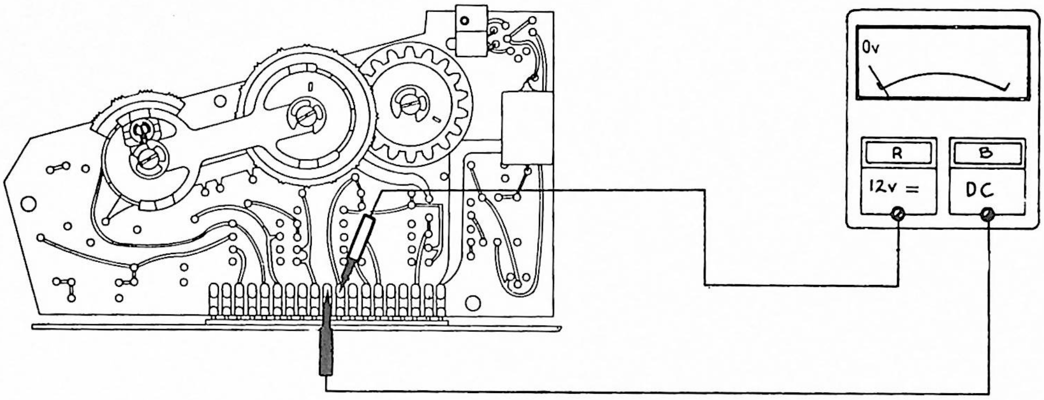

Reading is 3 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

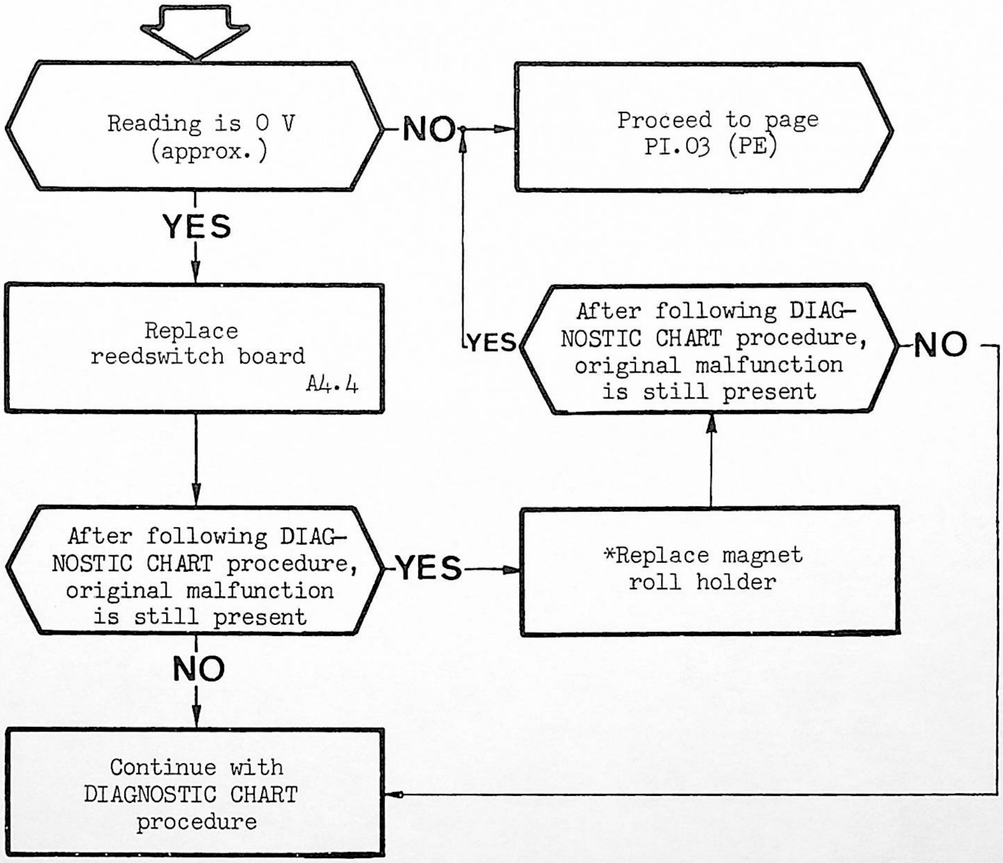
TEST
O 1013
O 1013*

SIGNAL AB

PRELIMINARY OPERATIONS

1 - Manually move screen of AB reedswitch completely clear of its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



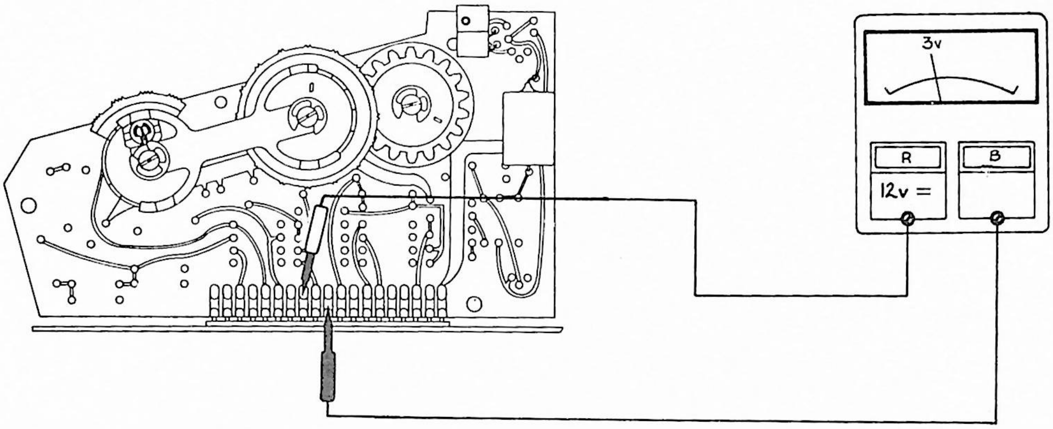

Reading is 0 V (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
*Replace magnet roll holder
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
NO
Continue with DIAGNOSTIC CHART procedure

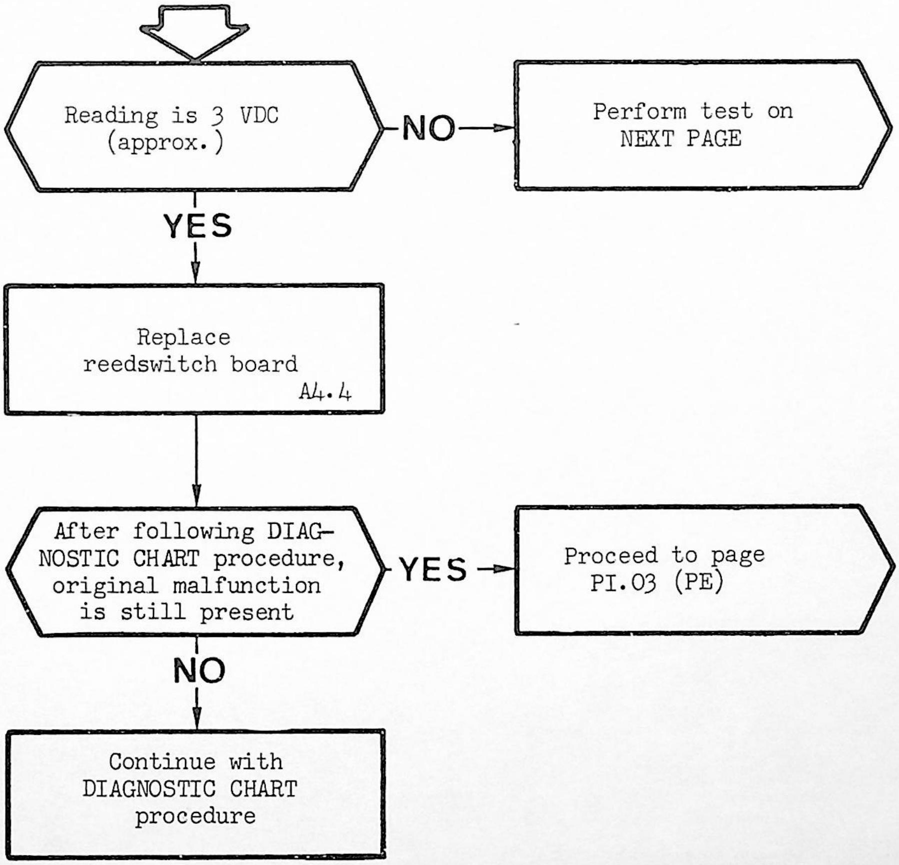
TEST O2003

REEDSWITCH AD

PRELIMINARY OPERATIONS

1 - Ensure that screen of AD reedswitch completely covers its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure



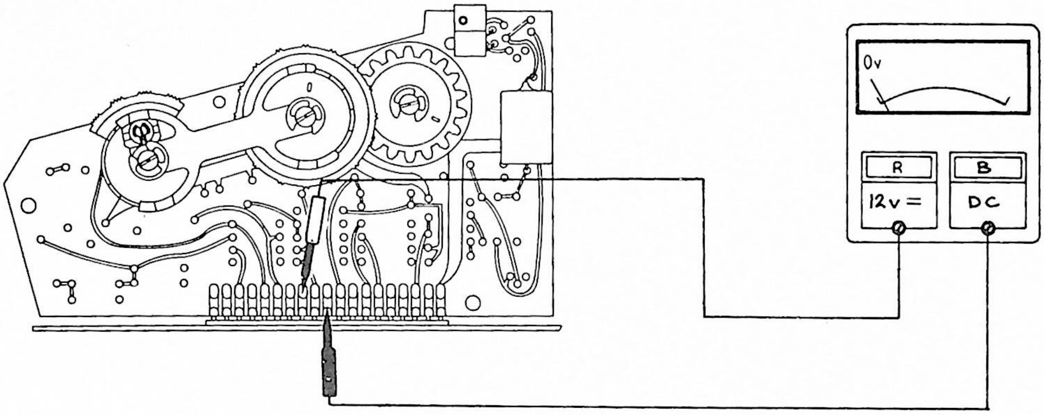

Reading is 3 VDC (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

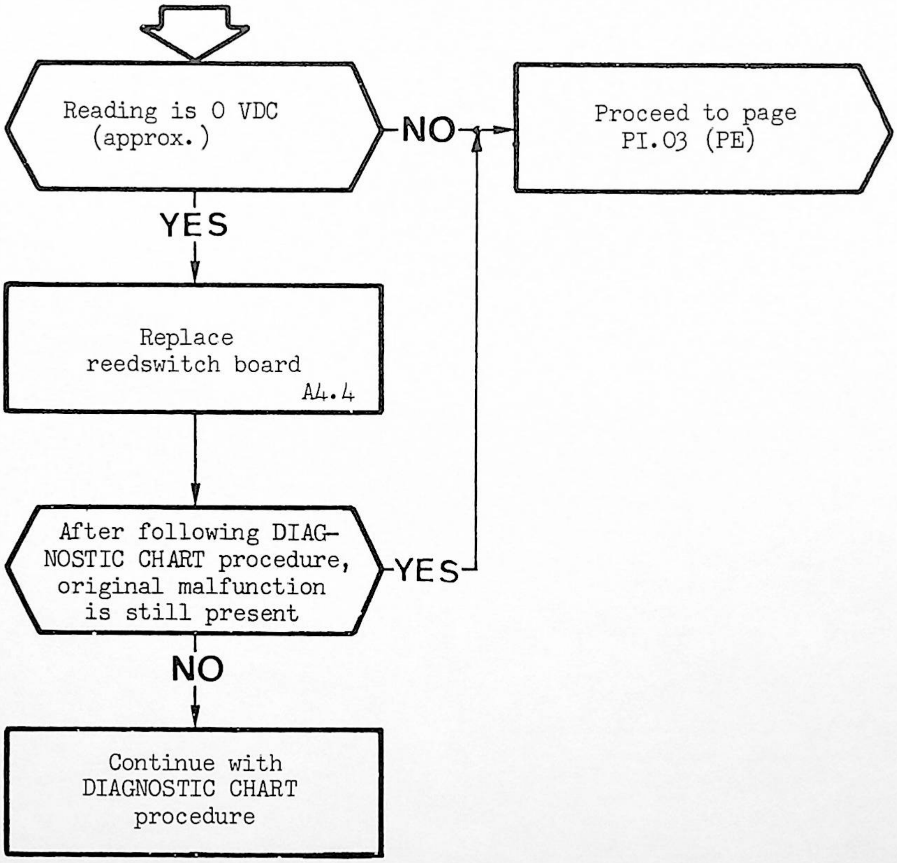
TEST
O2013

SIGNAL AD

PRELIMINARY OPERATIONS

1 - Manually move screen of AD reedswitch completely clear of its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



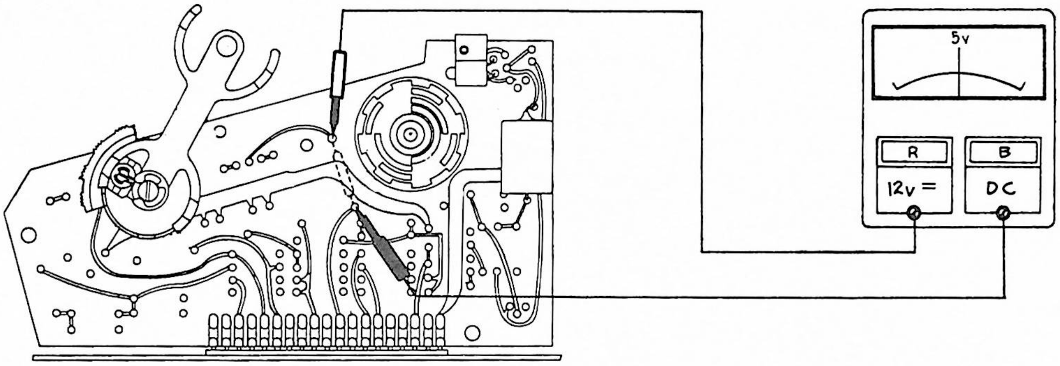

Reading is 0 VDC (approx.)
NO
Proceed to page PI.03 (PE)
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
Continue with DIAGNOSTIC CHART procedure

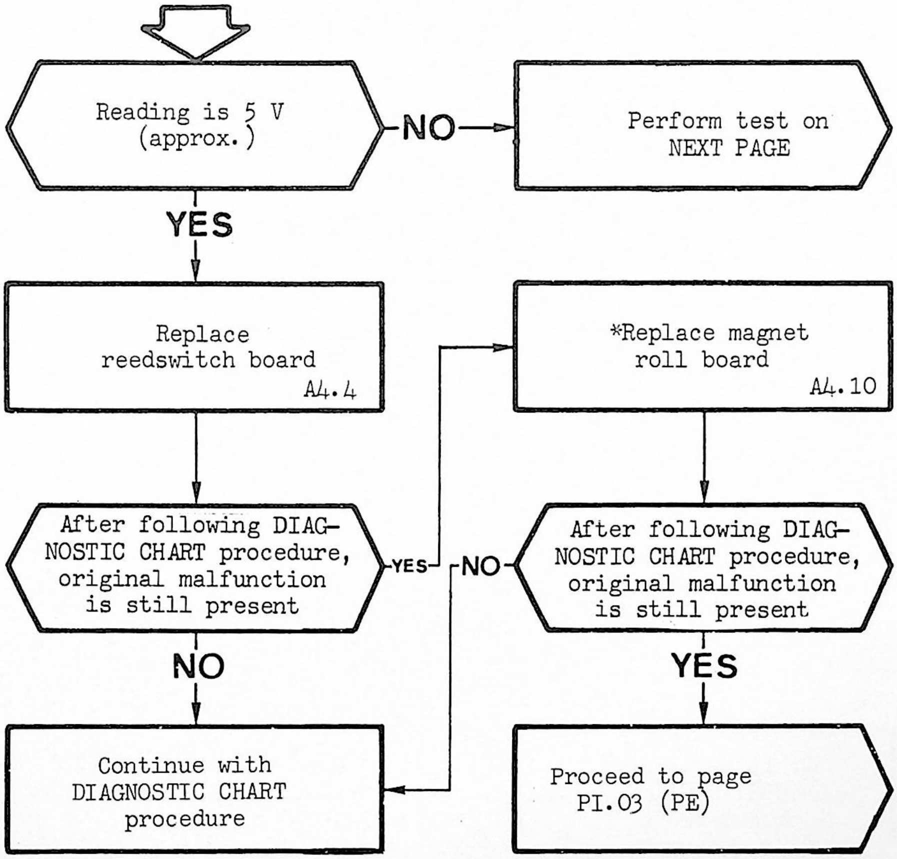
TEST
O3003
O3003*

REEDSWITCH AB

PRELIMINARY OPERATIONS

1 - Remove decimals wheel as shown in figure
2 - Manually move screen of AB reedswitch completely clear of its magnet roll (A7.1)
3 - Insert line cord and turn power switch on
4 - Set VOM for a DC voltage measurement (scale 12V DC)
5 - Perform test as shown in figure



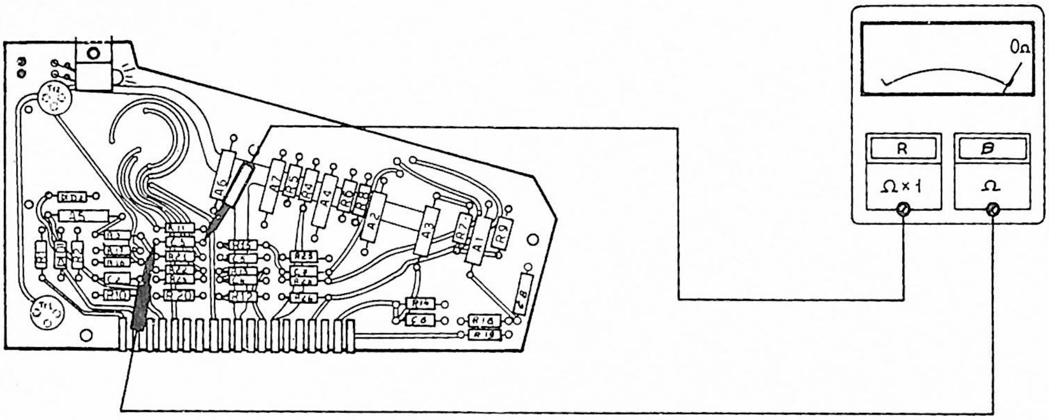

Reading is 5 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board
A4.4
*Replace magnet roll board
A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

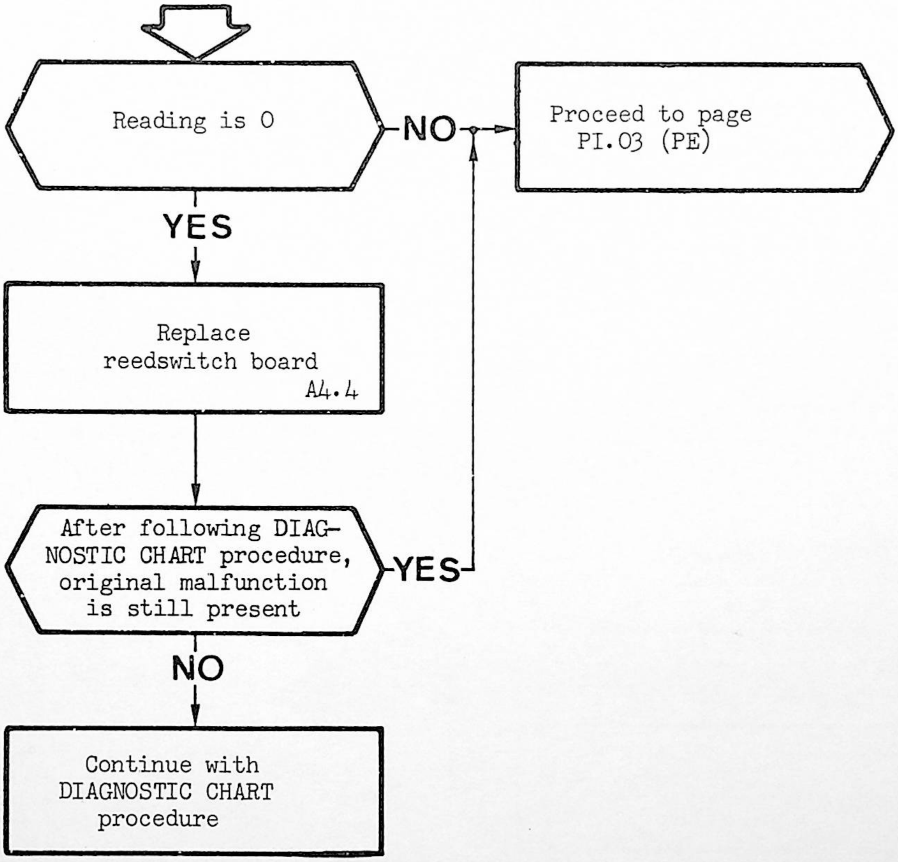
TEST
03013

CAPACITOR C3

PRELIMINARY OPERATIONS

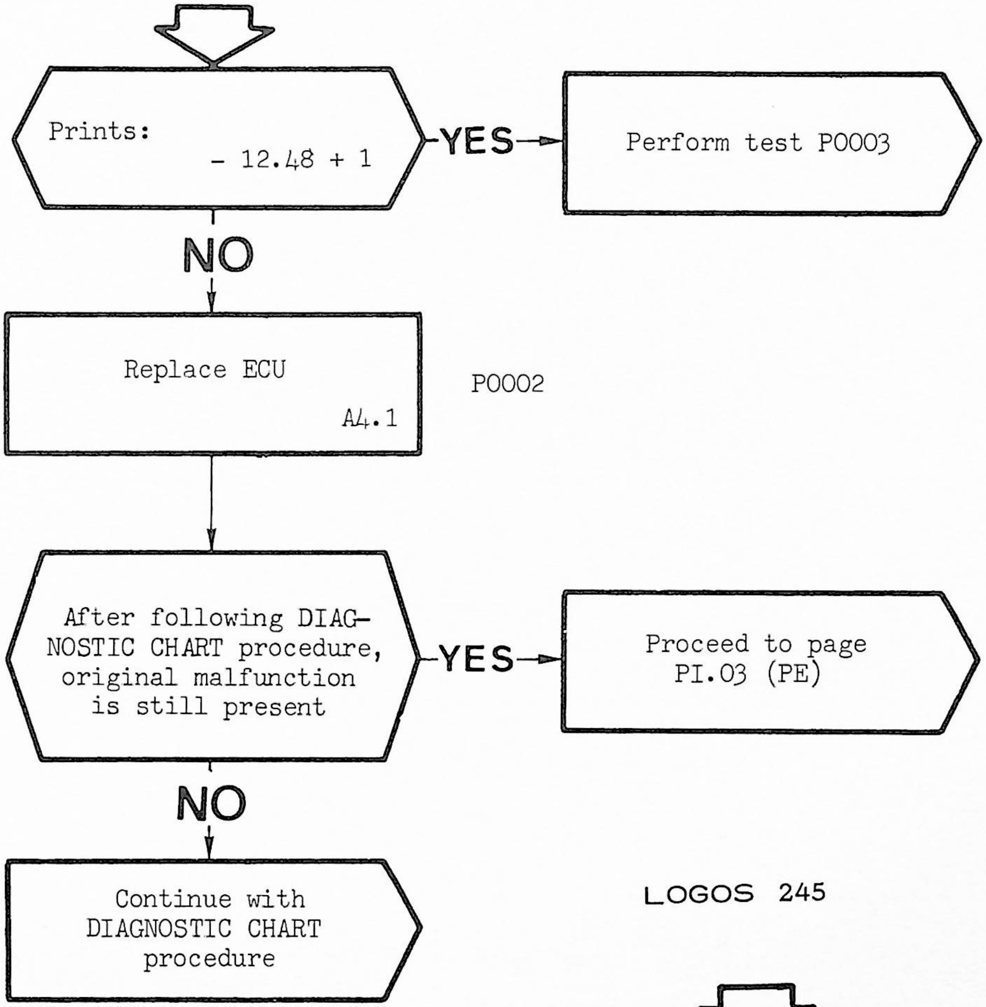
1 - Remove line cord
2 - Remove reedswitch board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



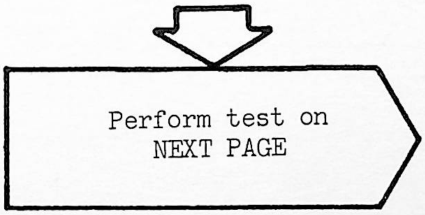

Reading is 0
NO
Proceed to page PI.03 (PE)
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
Continue with DIAGNOSTIC CHART procedure

EXIT **P**	MACHINE DOES NOT PRINT – 12.48 + 2 (L270-250) – 1248 # 2 (L245)
MECHANICAL CHECKS	– Check that reedswitch screens are covering magnets properly – Check angular position of rear setting bail = A3.31 – Check angular position of front setting bail = A3.32 – Check coding bar lock mechanism = A3.35 – Check position of pickup coil = A3.17 – Check AW microswitch = A3.18

LOGOS 270 - 250


Prints:
– 12.48 + 1
YES
Perform test P0003
NO
Replace ECU
A4.1
P0002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

LOGOS 245

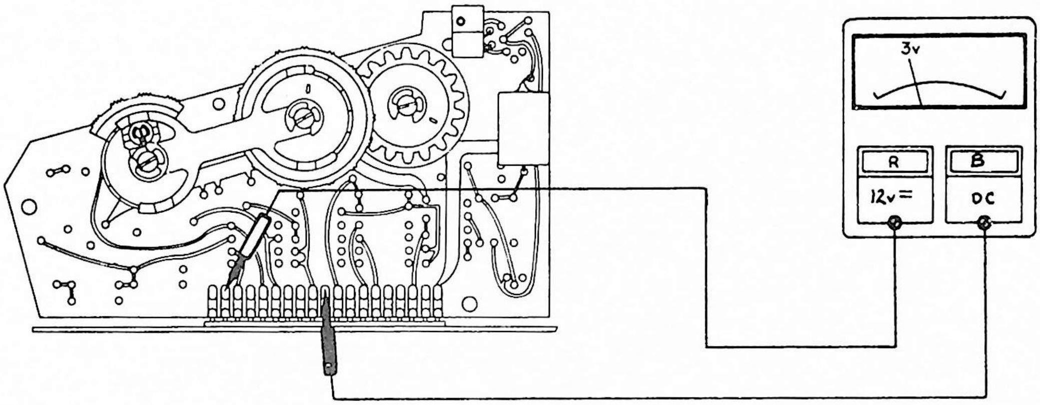


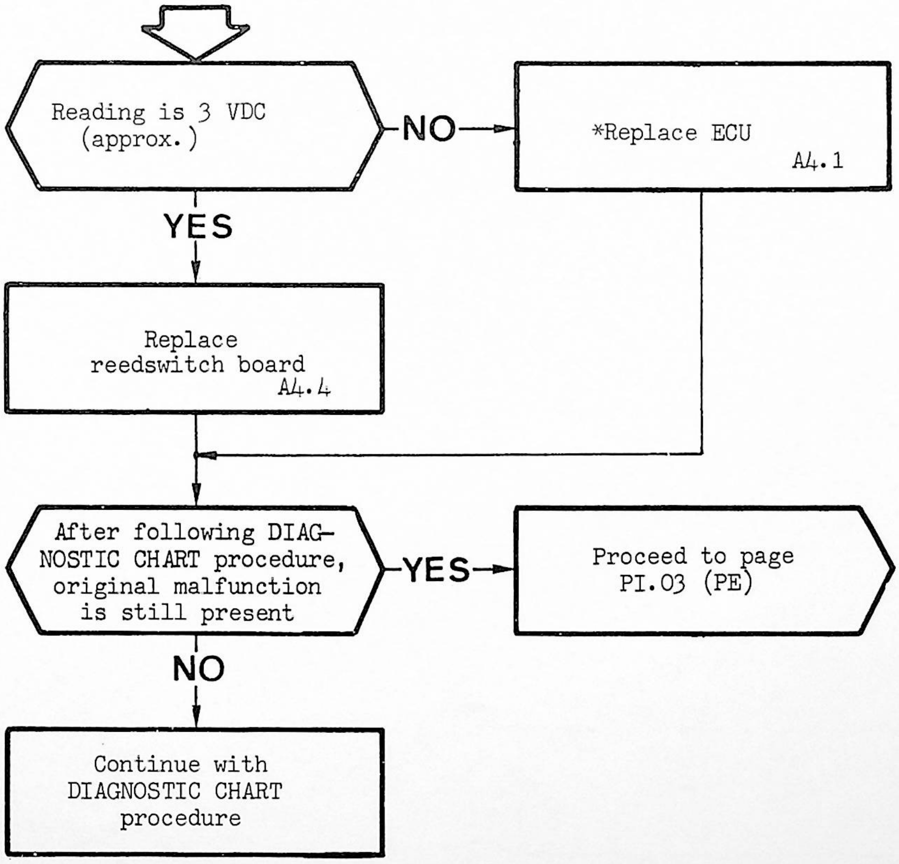
TEST P0002* P0003

REEDSWITCH AE

PRELIMINARY OPERATIONS

1 - Manually move screen of AE reedswitch clear of its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



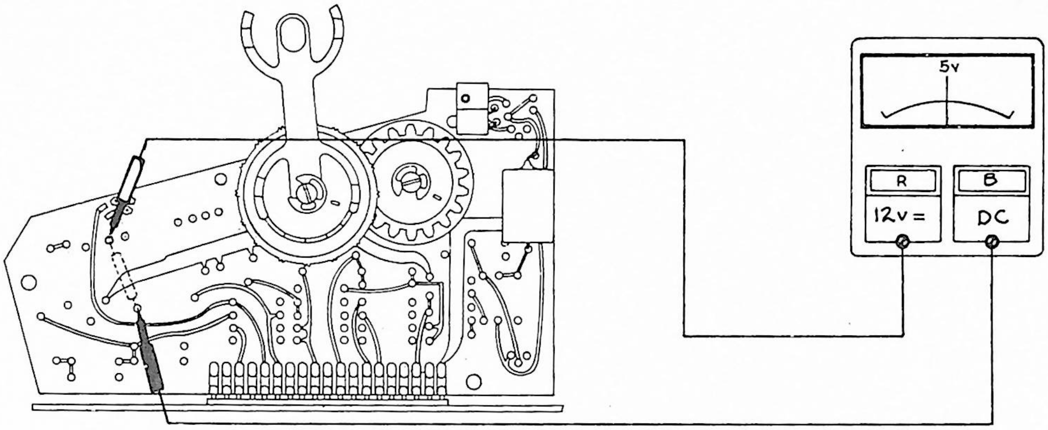

Reading is 3 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

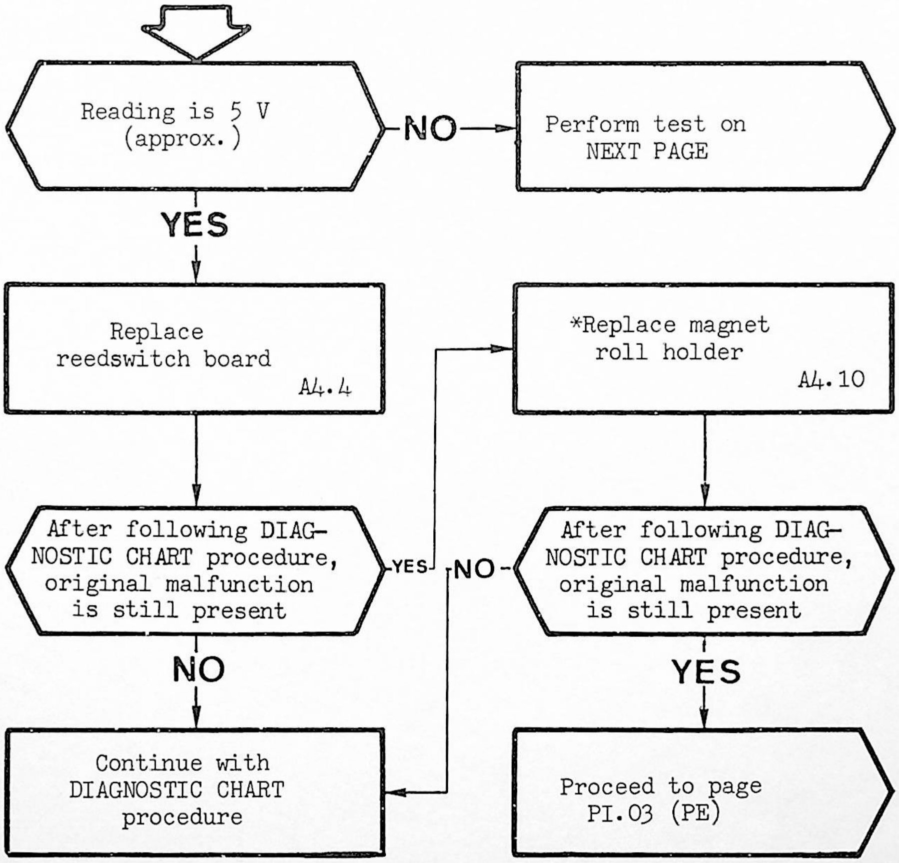
TEST
P1003
P1007*

REEDSWITCH AE

PRELIMINARY OPERATIONS

1 - Remove round-off wheel
2 - Manually move screen of AE reedswitch completely clear of its magnet roll (A7.1)
3 - Insert line cord and turn power switch on
4 - Set VOM for a DC voltage measurement (scale 12V DC)
5 - Perform test as shown in figure



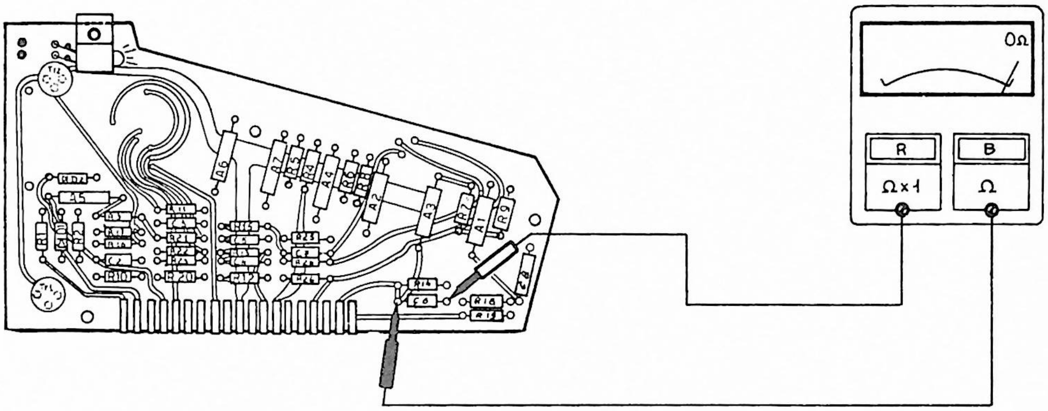

Reading is 5 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board
A4.4
*Replace magnet roll holder
A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

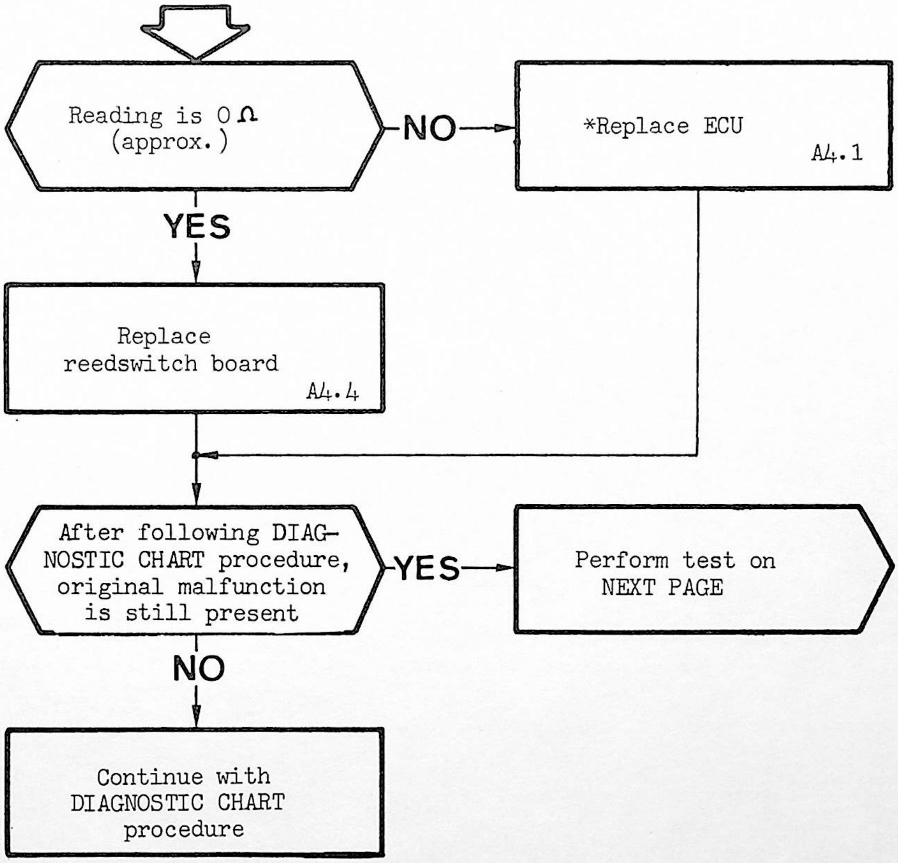
TEST
P 1012*
P 1013

CAPACITOR C6

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure





Reading is 0 Ω (approx.)

NO → *Replace ECU A4.1

YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Perform test on NEXT PAGE

NO → Continue with DIAGNOSTIC CHART procedure

EXIT

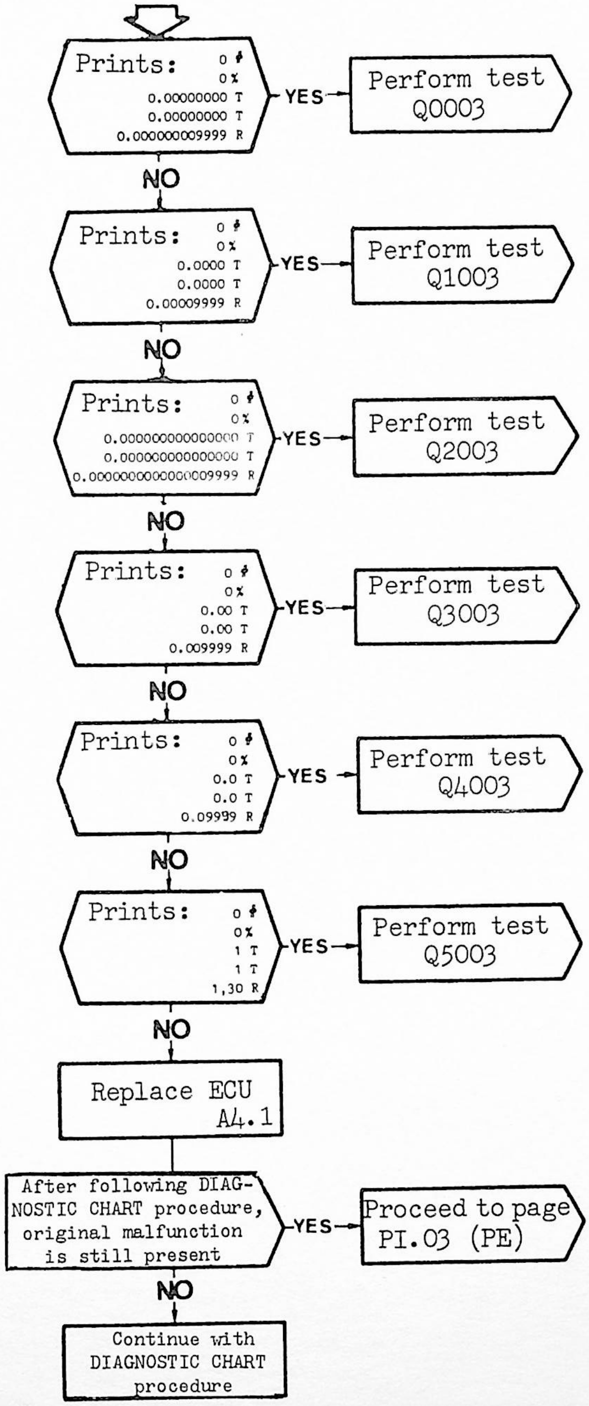
Q

MACHINE DOES NOT PRINT

0 #
0 %
0 T
0 T
0.9999 R

MECHANICAL CHECKS

- Check that reedswitch screens are covering magnets properly
- Check AW microswitch = A3.18
- Check position of pickup coil = A3.17
- Check efficiency of decimal wheel and round-off selector

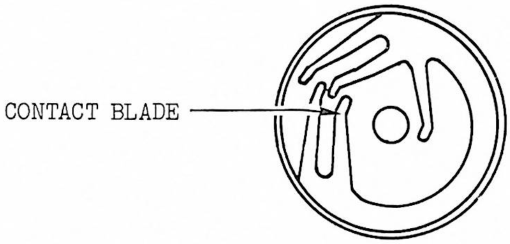

Prints: 0 ♦ 0 % 0.00000000 T 0.00000000 T 0.000000009999 R
YES
Perform test Q0003
NO
Prints: 0 ♦ 0 % 0.0000 T 0.0000 T 0.00009999 R
YES
Perform test Q1003
NO
Prints: 0 ♦ 0 % 0.000000000000000 T 0.000000000000000 T 0.0000000000000009999 R
YES
Perform test Q2003
NO
Prints: 0 ♦ 0 % 0.00 T 0.00 T 0.009999 R
YES
Perform test Q3003
NO
Prints: 0 ♦ 0 % 0.0 T 0.0 T 0.09999 R
YES
Perform test Q4003
NO
Prints: 0 ♦ 0 % 1 T 1 T 1,30 R
YES
Perform test Q5003
NO
Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

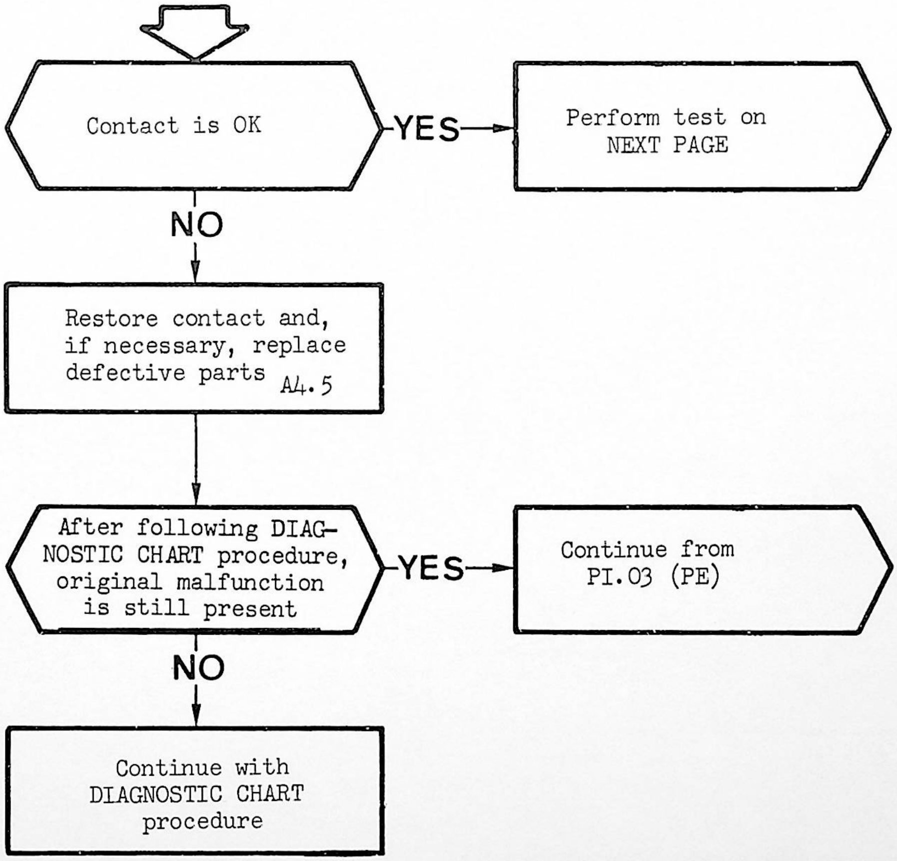
TEST Q0003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contact between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)




Contact is OK

Perform test on NEXT PAGE

Restore contact and, if necessary, replace defective parts A4.5

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Continue from PI.03 (PE)

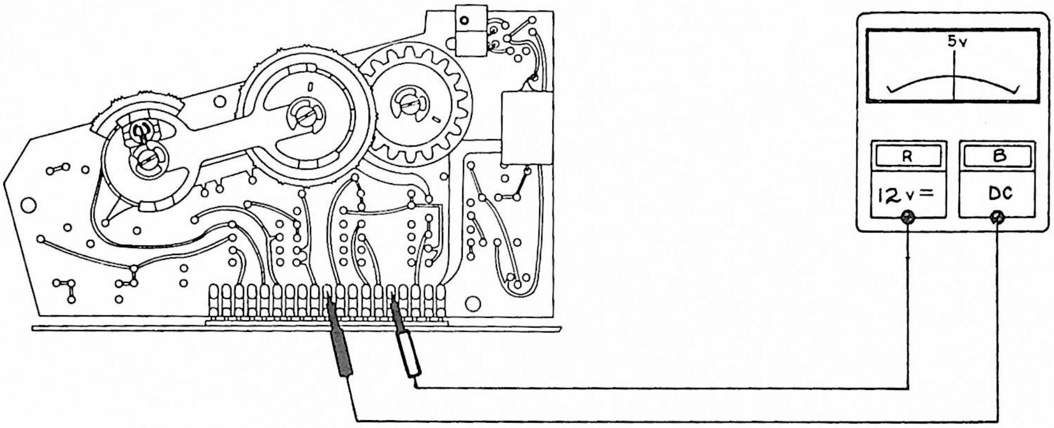
Continue with DIAGNOSTIC CHART procedure

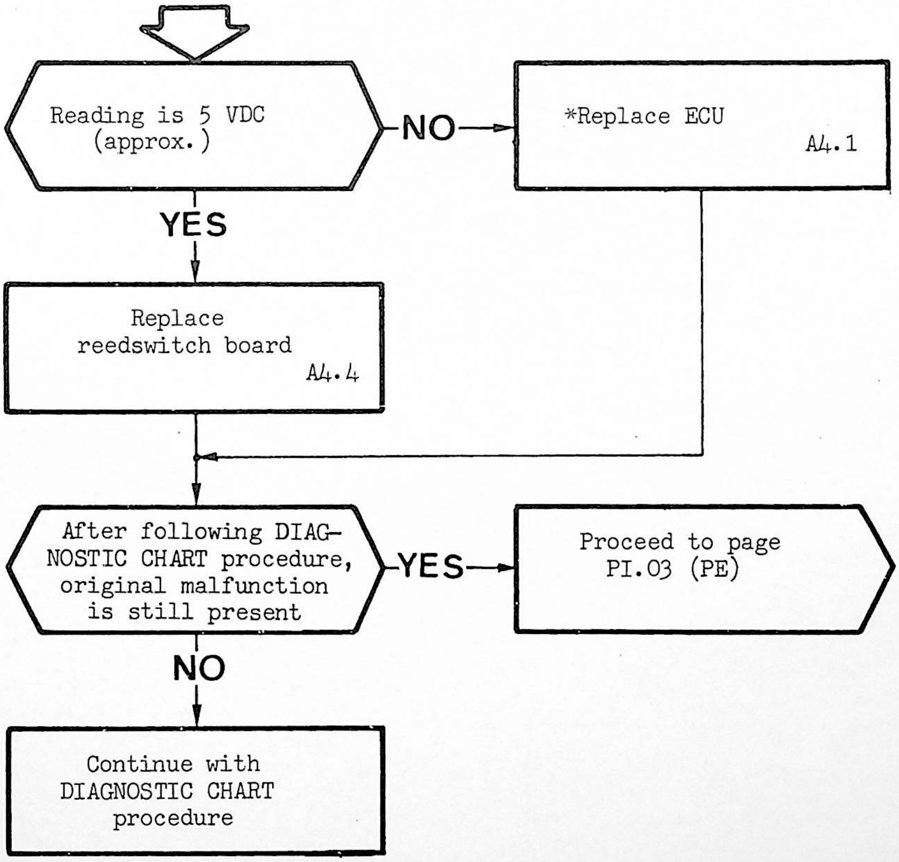
TEST
Q0013
Q0012*

SIGNAL AX4

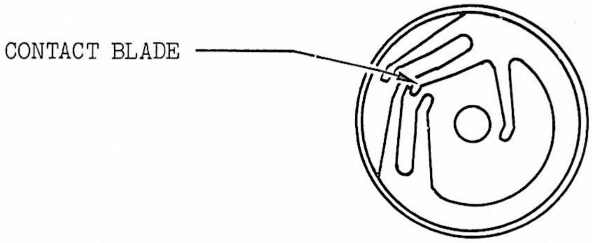
PRELIMINARY OPERATIONS

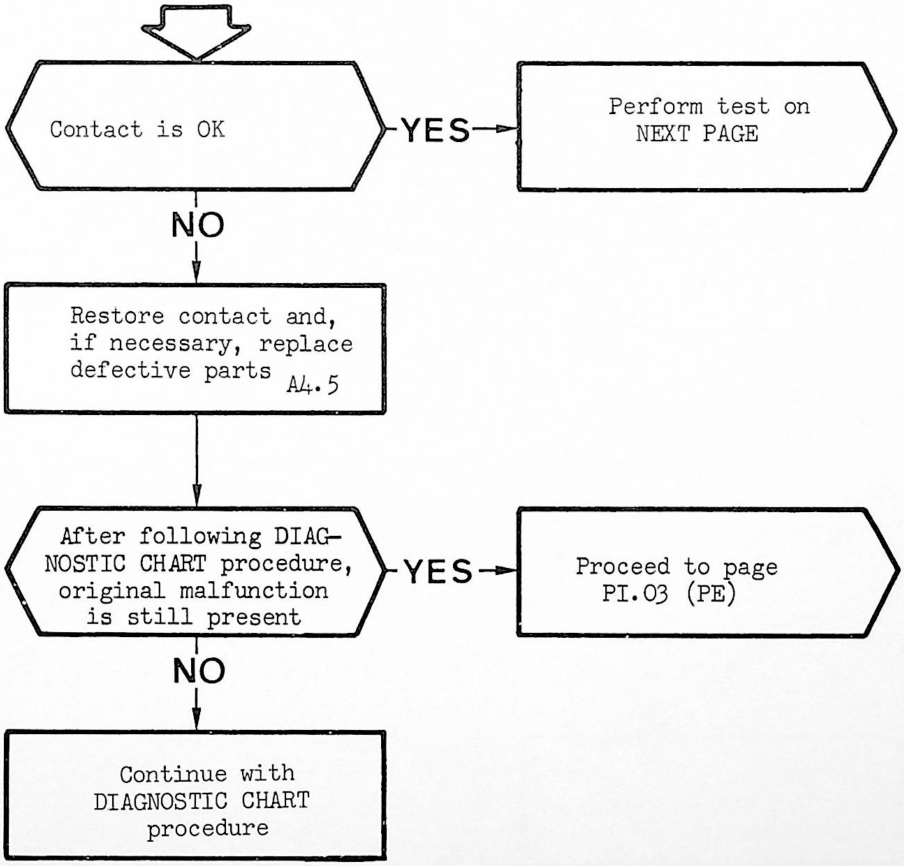
1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 5 VDC (approx.)
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST **Q1003**	DECIMAL WHEEL CONTACTS
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove decimal wheel, and inspect efficiency of contact between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



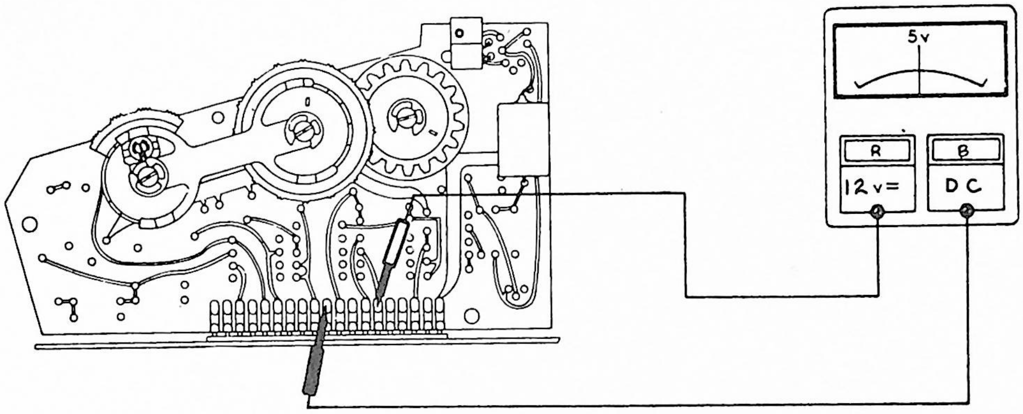

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

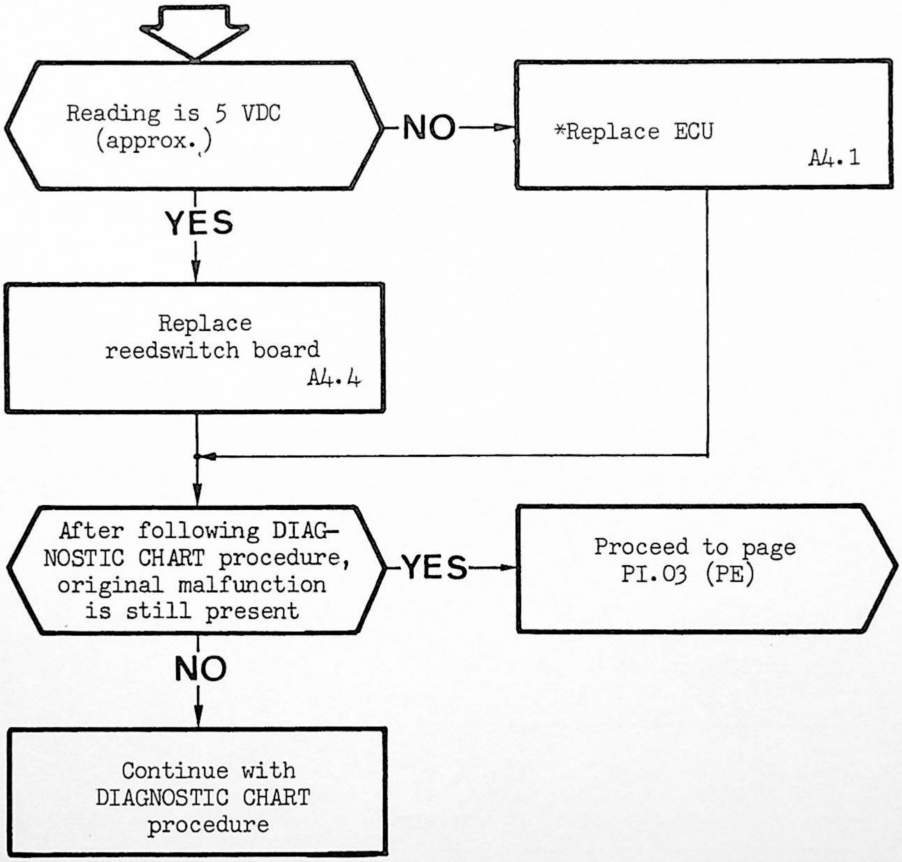
TEST
Q 1013
Q 1012*

SIGNAL AX3

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selection to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



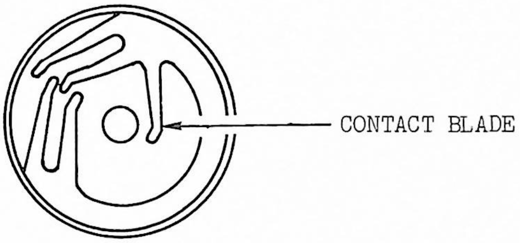

Reading is 5 VDC (approx.)
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

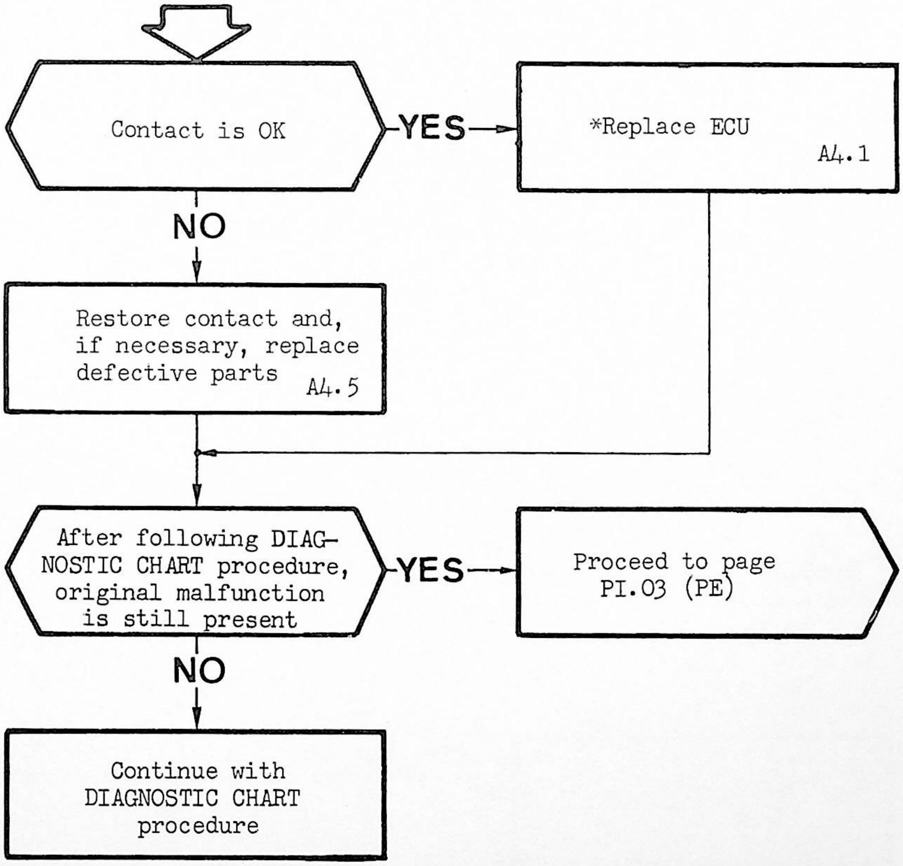
TEST
Q2003
Q2002*

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contacts between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)





Contact is OK

YES

*Replace ECU A4.1

NO

Restore contact and, if necessary, replace defective parts A4.5

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES

Proceed to page PI.03 (PE)

NO

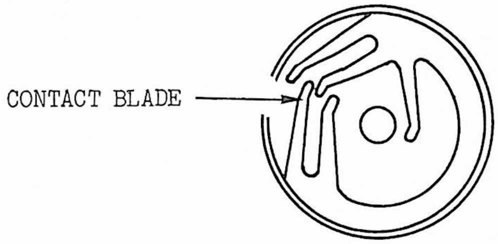
Continue with DIAGNOSTIC CHART procedure

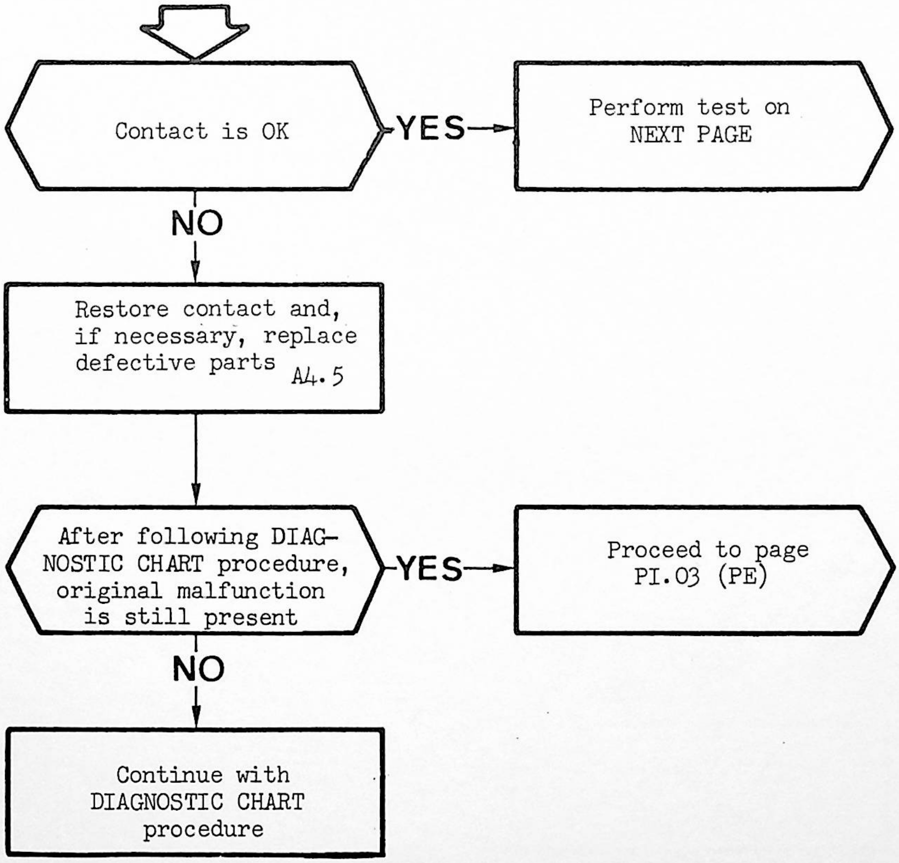
TEST Q3003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contacts between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



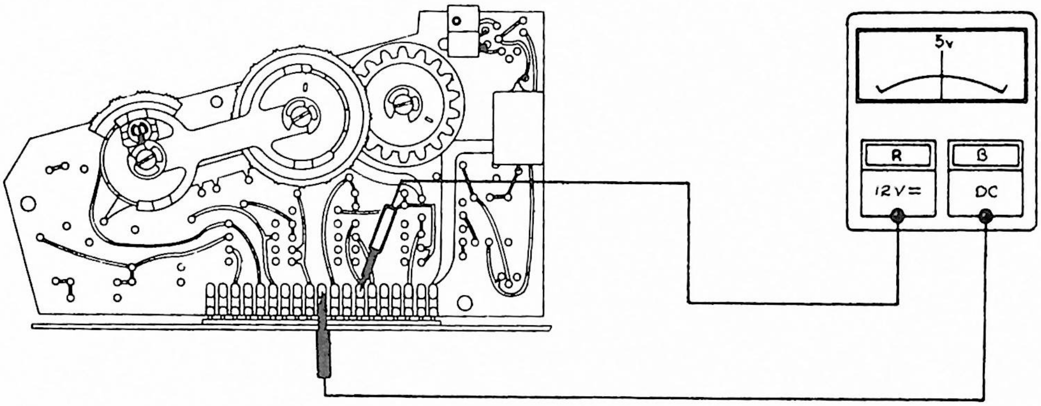

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

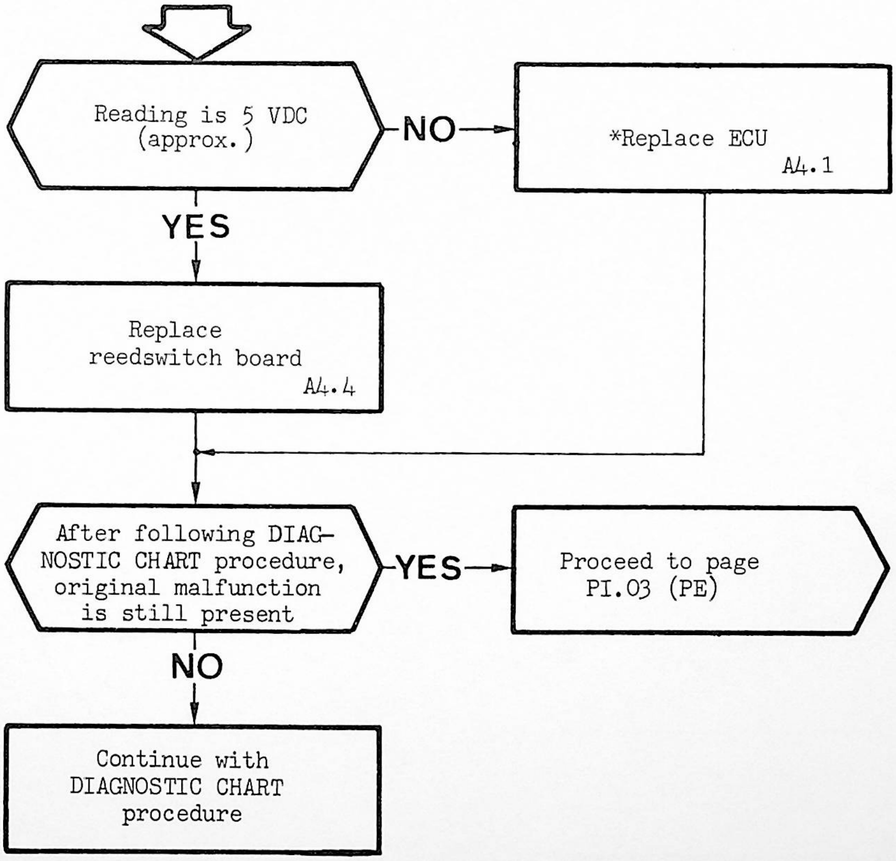
TEST
Q3013
Q3012*

SIGNAL AX2

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltahe measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



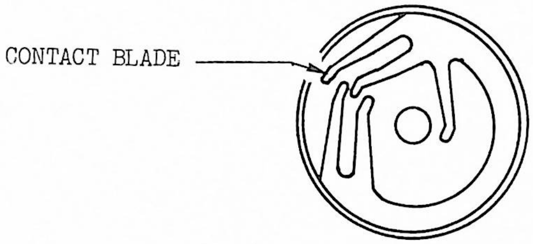

Reading is 5 VDC (approx.)
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

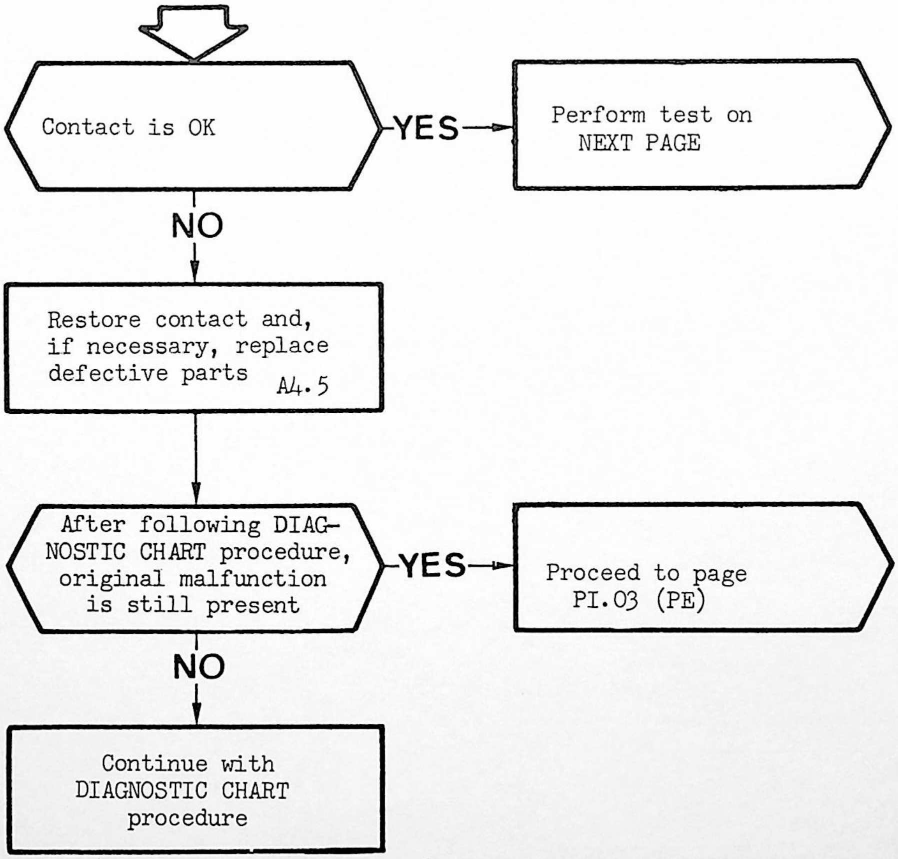
TEST Q4003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contact between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



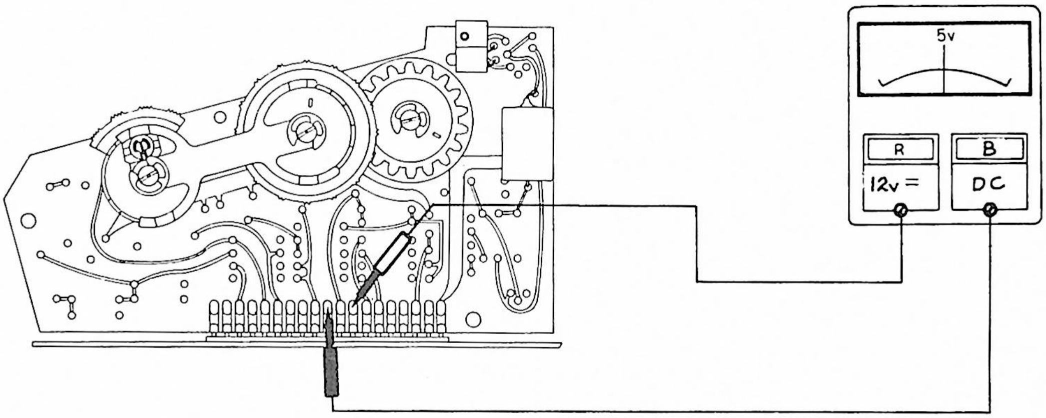

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

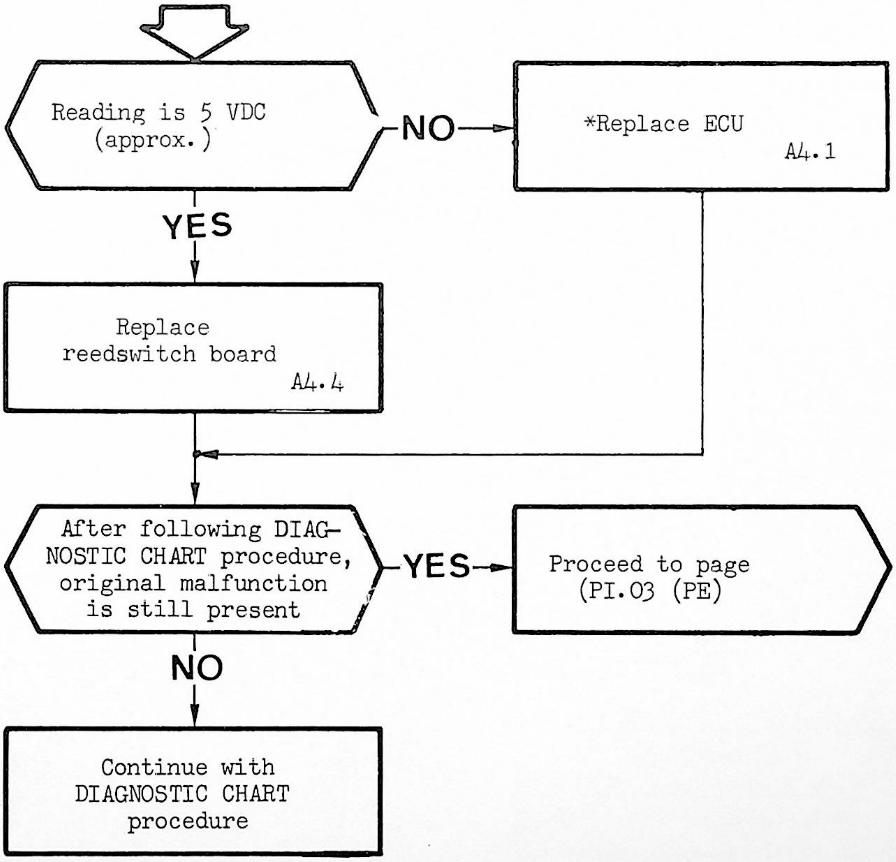
TEST
Q4013
Q4012*

SIGNAL AX1

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 5 VDC (approx.)

NO → *Replace ECU A4.1

YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page (PI.03 (PE)

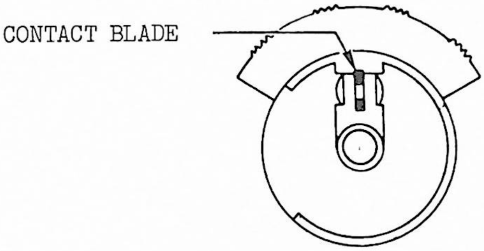
NO → Continue with DIAGNOSTIC CHART procedure

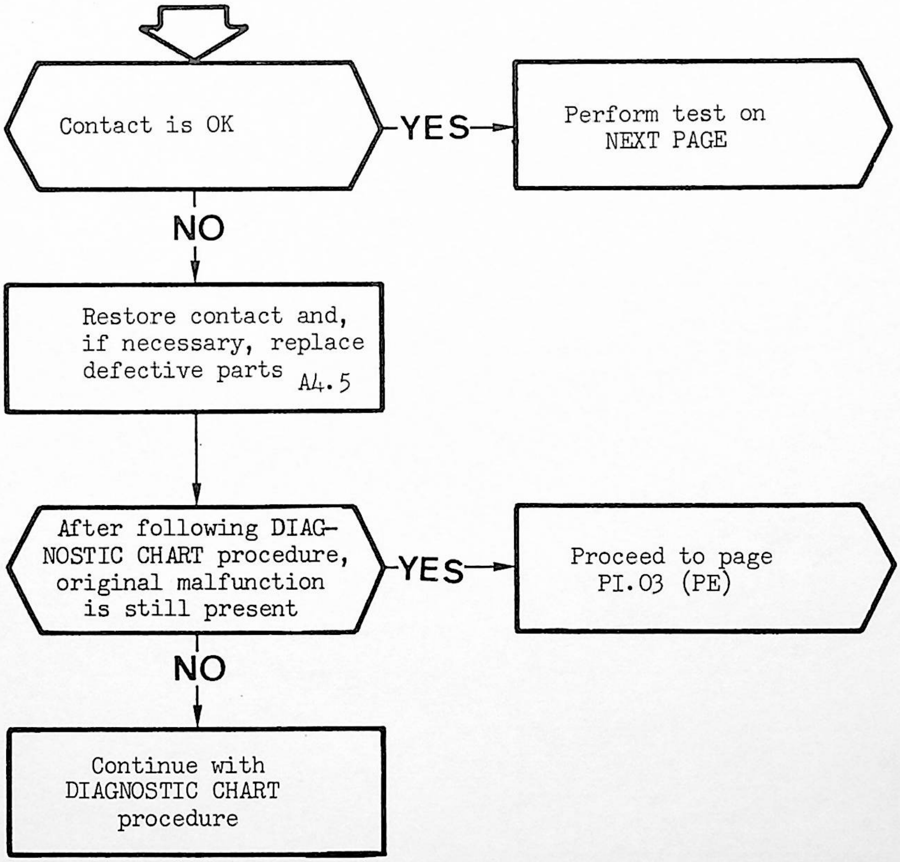
TEST Q5003

ROUND-OFF CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove round-off selector and inspect efficiency of its contacts with printed circuit of reedswitch board (A4.5)



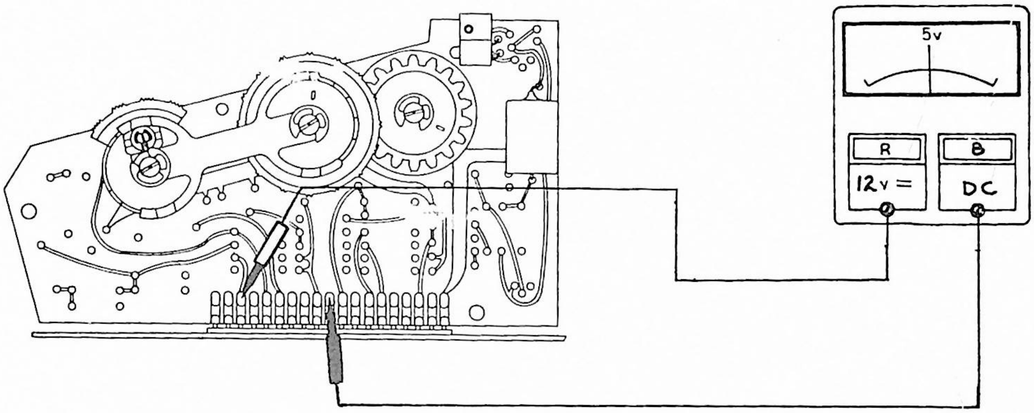

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

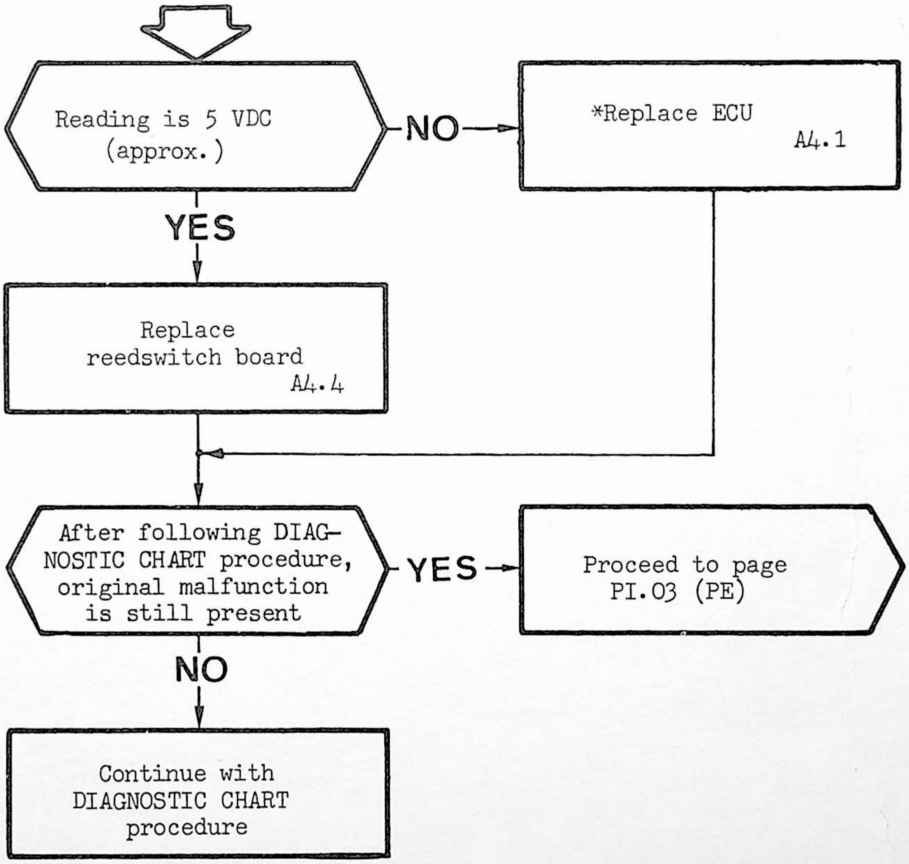
TEST
Q5013
Q5012*

SIGNAL DTON

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 5 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

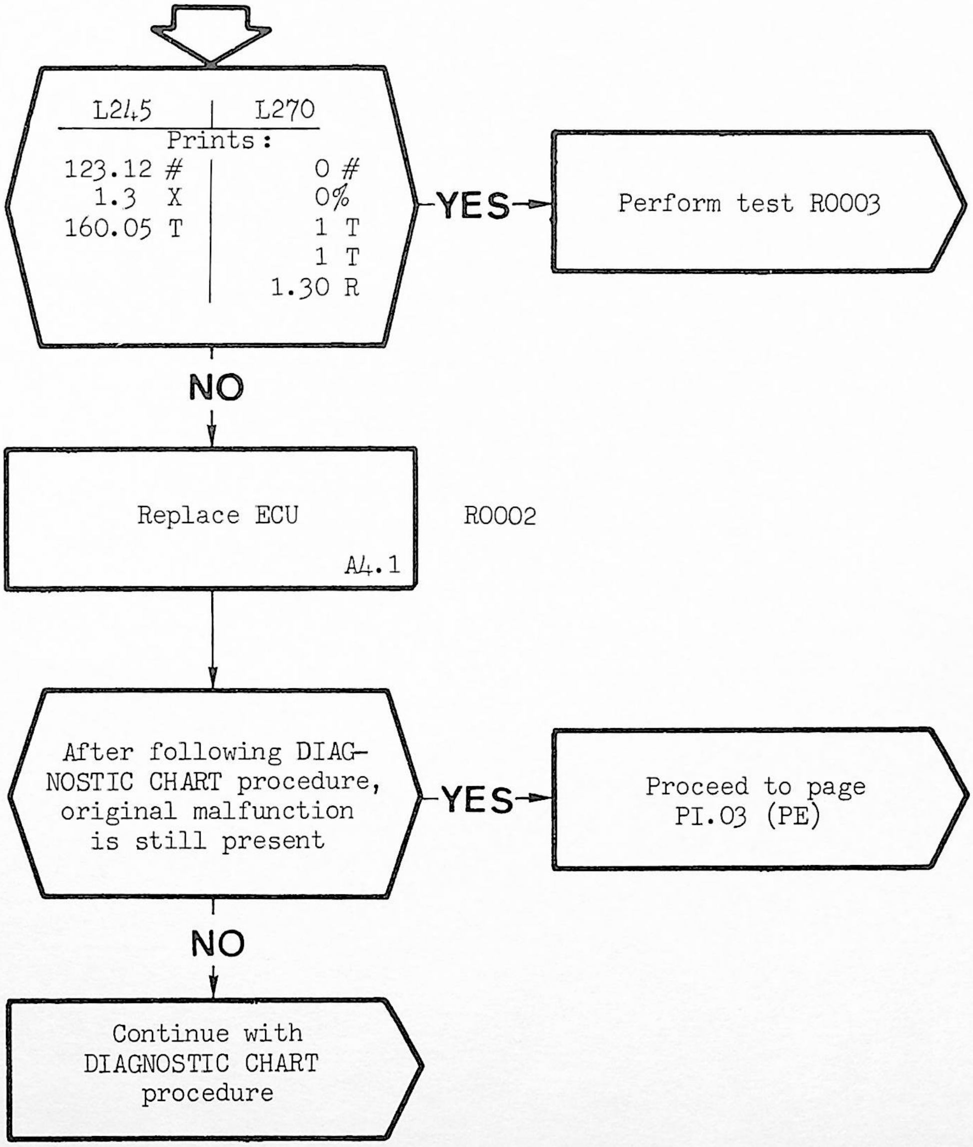
EXIT R

MACHINE DOES NOT PRINT

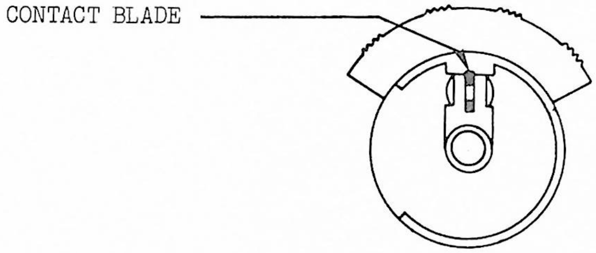
L245	L270
123.12 #	0 #
1.3 X	0 %
160.06 T	0 T
	0 T
	0.50 R

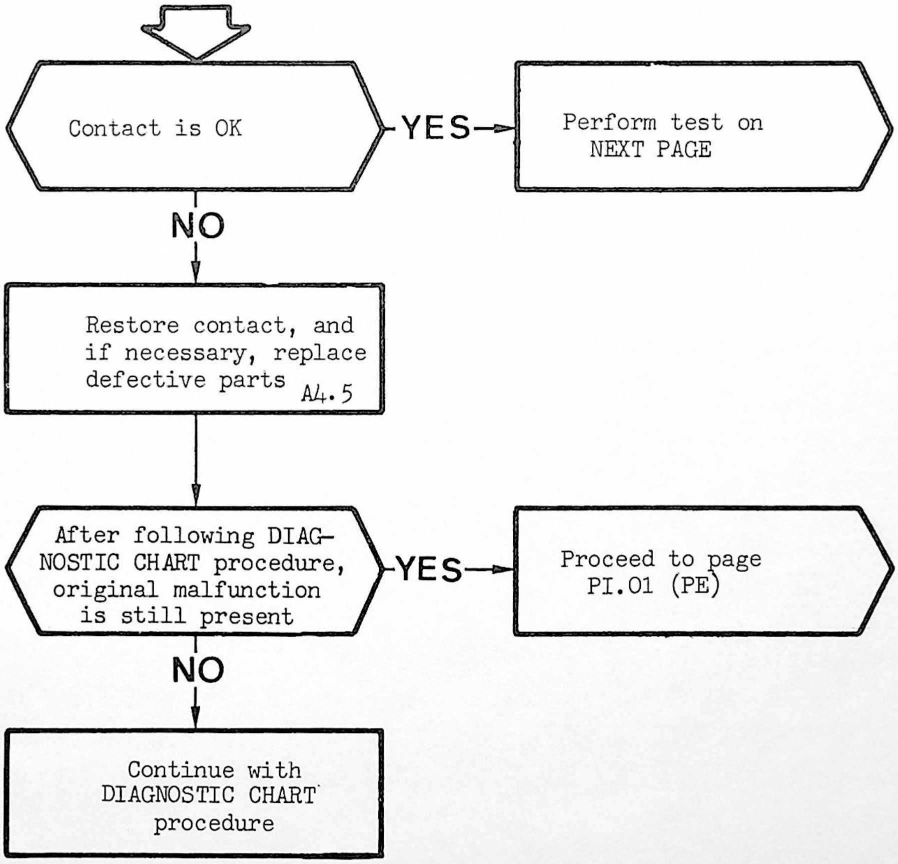
MECHANICAL CHECKS

- Check that reedswitch screens are covering magnets properly
- Check AW microswitch = A3.18
- Check efficiency of decimal wheel and round-off selector
- Check position of pickup coil = A3.17


L245 | L270
Prints:
123.12 # | 0 #
1.3 X | 0%
160.05 T | 1 T
1 T
1.30 R
YES
Perform test R0003
NO
Replace ECU
A4.1
R0002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST R0003	ROUND-OFF CONTACTS
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove round-off selector, and inspect efficiency of its contact with printed circuit of reedswitch board (A4.5)



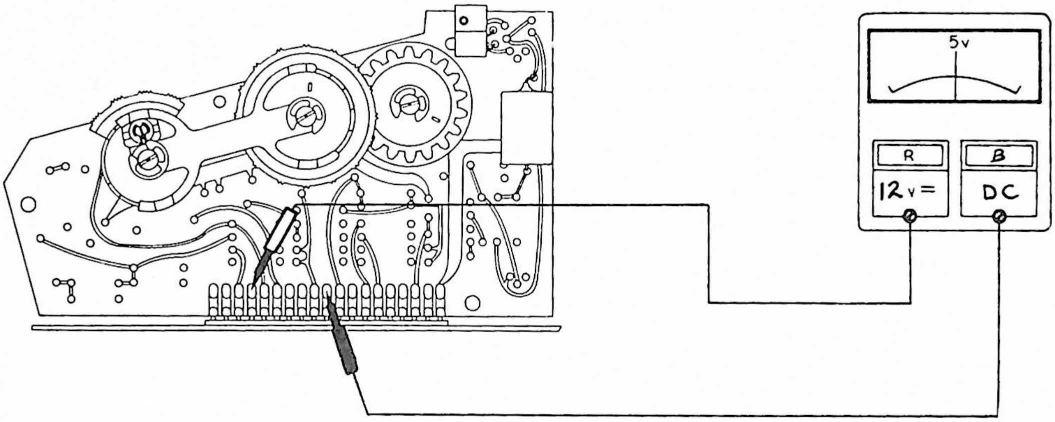

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact, and if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.01 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

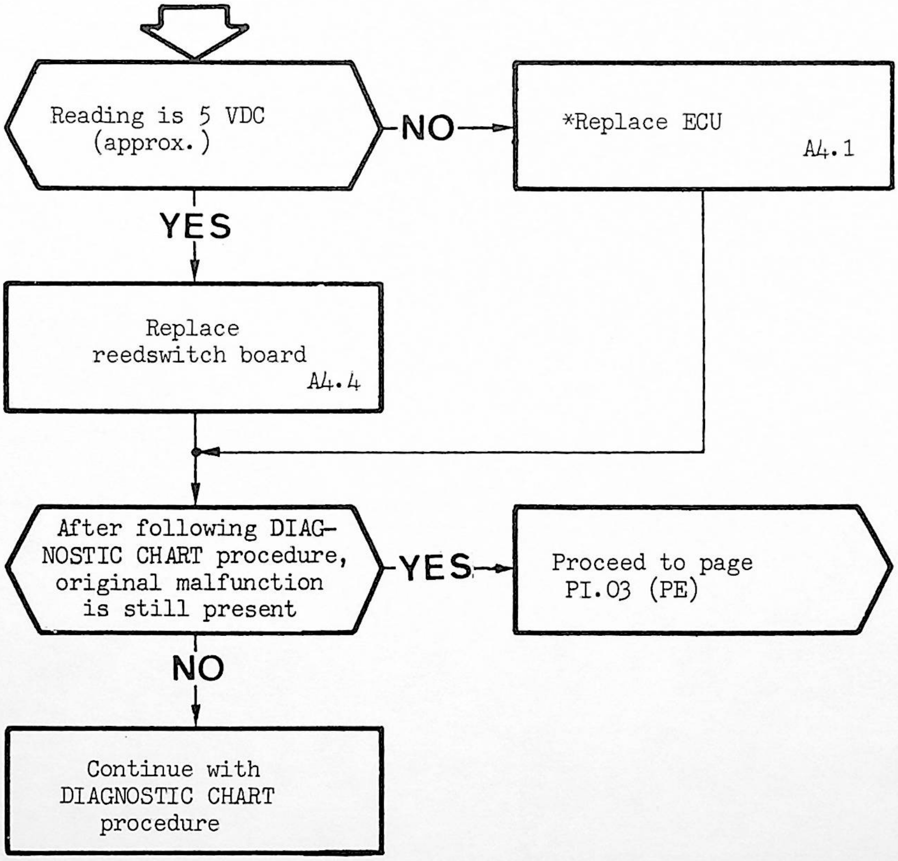
TEST
R0013
R0012*

SIGNAL DT00

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 5
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 5 VDC (approx.)
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

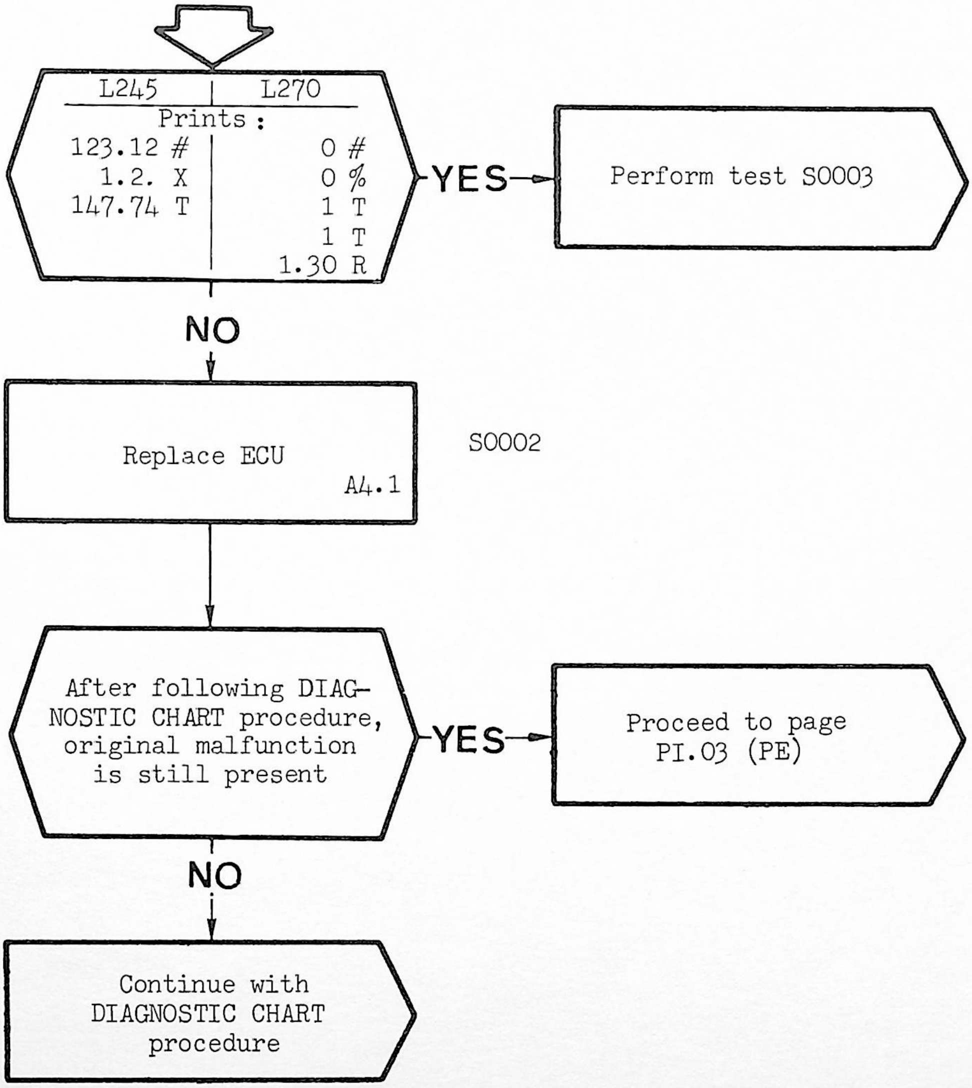
EXIT
S

MACHINE DOES NOT PRINT

L245	L270
123.12 #	0 #
1.2 X	0 %
147.75 T	0 T
	0 T
	0.00 R

MECHANICAL CHECKS

- Check that reedswitch screens are covering magnets properly
- Check AW microswitch = A3.18
- Check efficiency of decimal wheel and round-off selector
- Check position of pickup coil = A3.17



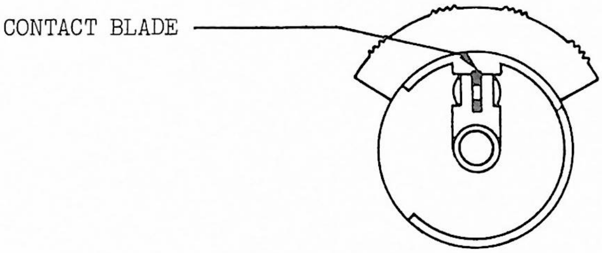
L245
L270
Prints :
123.12 #
1.2. X
147.74 T
0 #
0 %
1 T
1 T
1.30 R
YES
Perform test S0003
NO
Replace ECU
A4.1
S0002
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

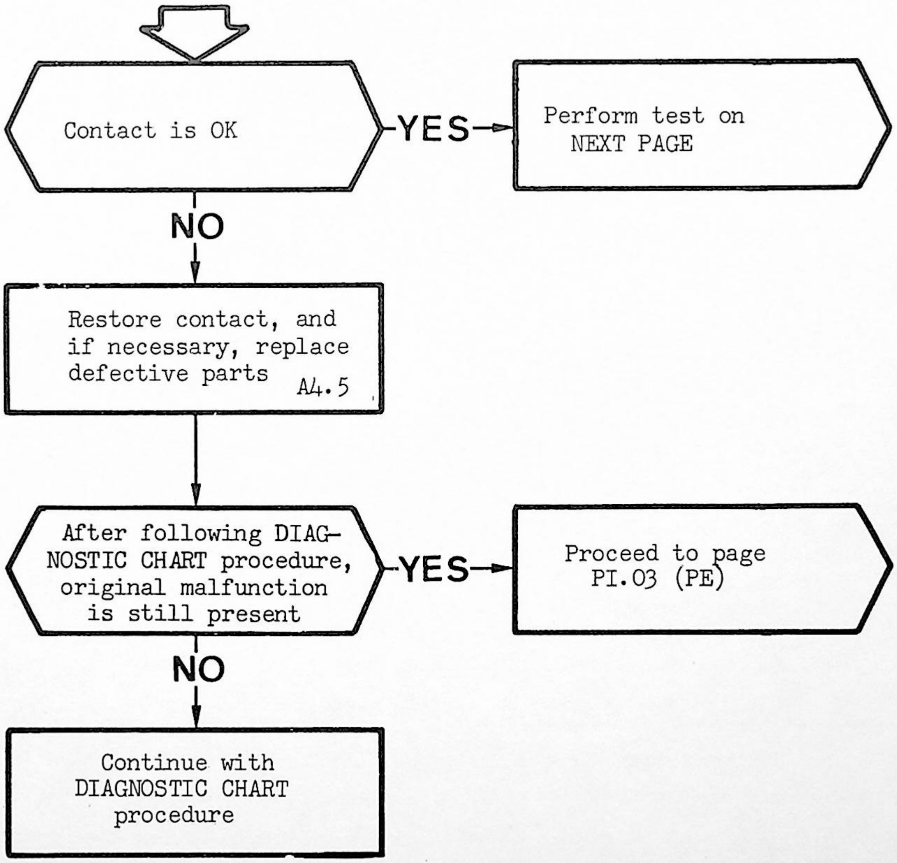
TEST S0003

ROUND-OFF CONTACTS

PRELIMINARY OPERATIONS

1 – Remove line cord
2 – Remove round-off selector, and inspect efficiency of its contacts with printed circuit of reedswitch board (A4.5)



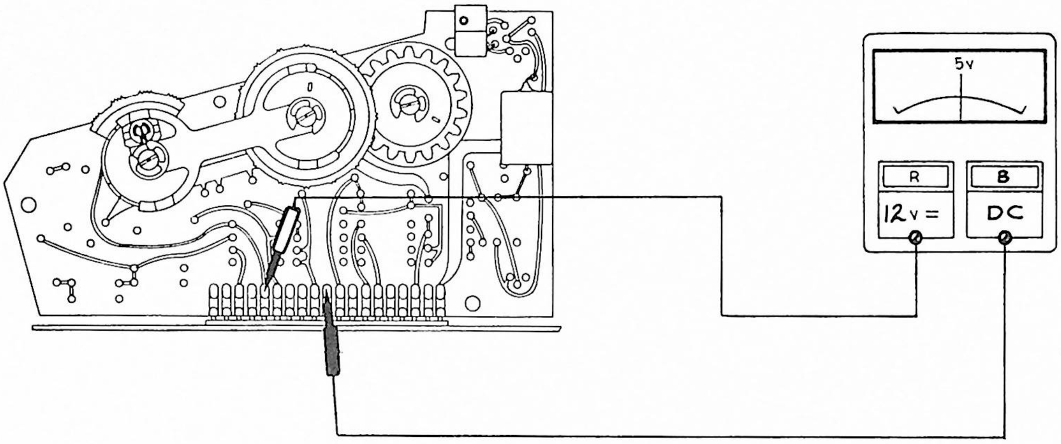

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact, and if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

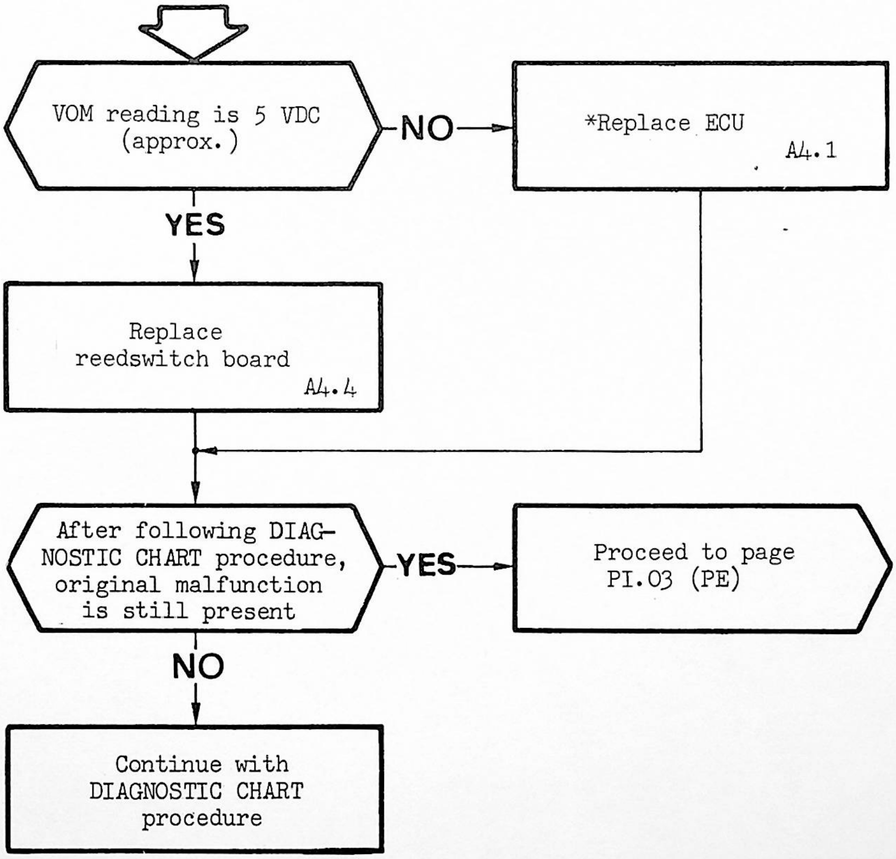
TEST
S0013
S0012*

SIGNAL DRON

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 0
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




VOM reading is 5 VDC (approx.)

NO → *Replace ECU A4.1

YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO → Continue with DIAGNOSTIC CHART procedure

EXIT U

DURING ENTRY OF " - " SIGN, MACHINE PRINTS

MECHANICAL CHECKS

PERFORM TEST ON
NEXT PAGE

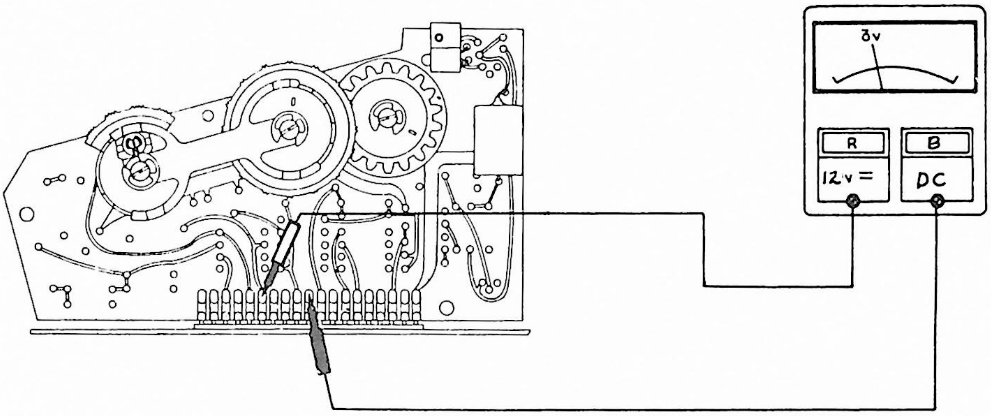
U

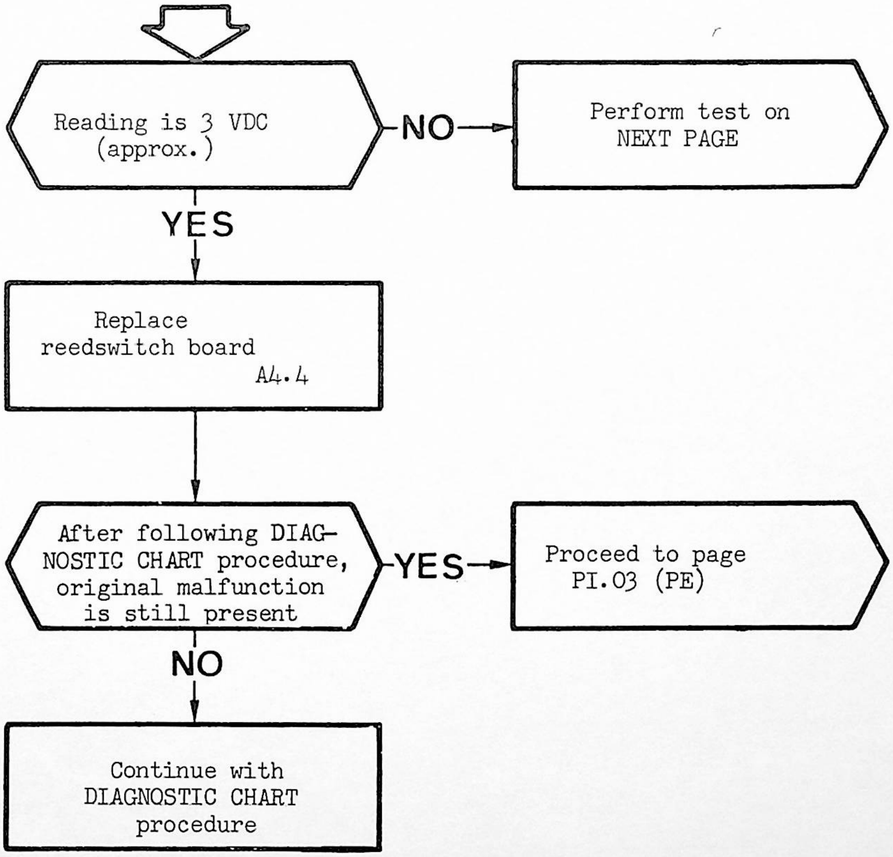
TEST
U0003

SIGNAL AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Ensure that screen of AF reedswitch completely covers its magnet roll (A7.1)
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



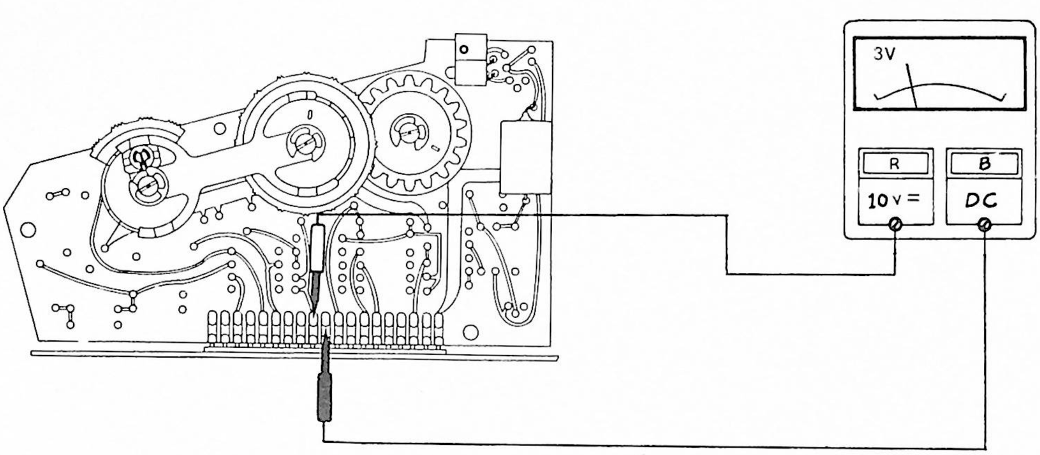

Reading is 3 VDC (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

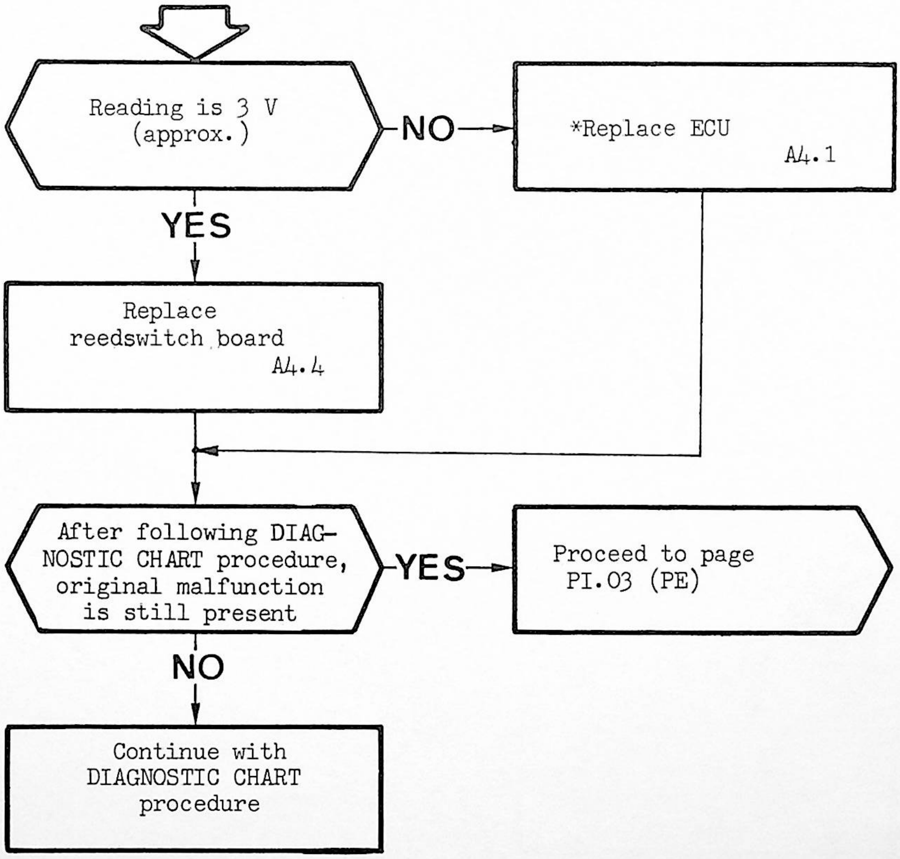
TEST
U1003
U1002*

REEDSWITCH AC

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Ensure that screen of AC reedswitch completely covers its magnet roll (A7.1)
3 - Set VOM for a DC voltage measurement (scale 10V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 3 V (approx.)

NO → *Replace ECU A4.1

YES → Replace reedswitch board A4.4

After following DIAGNOSTIC CHART procedure, original malfunction is still present

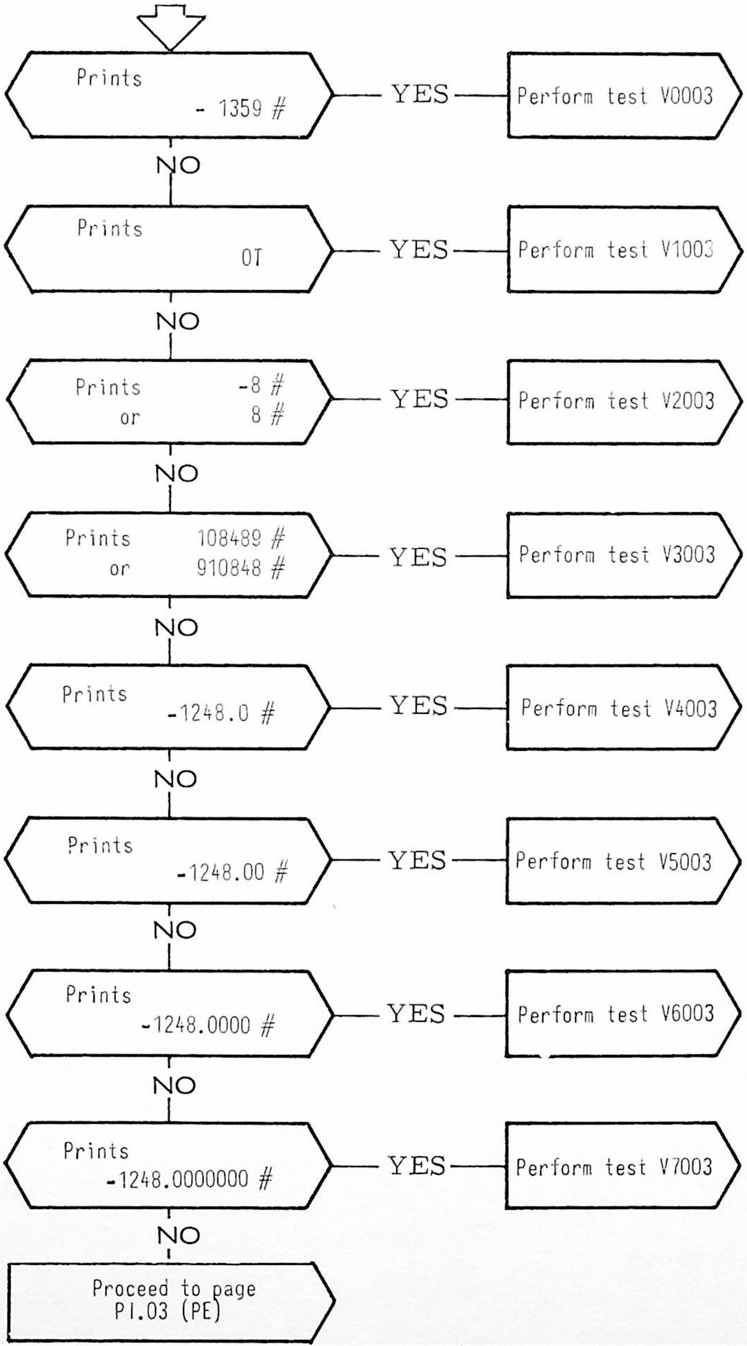
YES → Proceed to page PI.03 (PE)

NO → Continue with DIAGNOSTIC CHART procedure

EXIT
V

MACHINE DOES NOT PRINT - 1248 #

MECHANICAL CHECKS

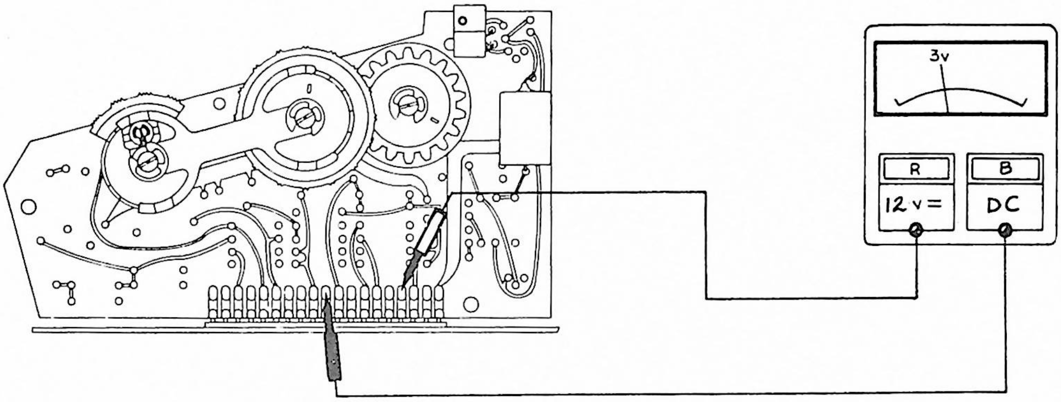


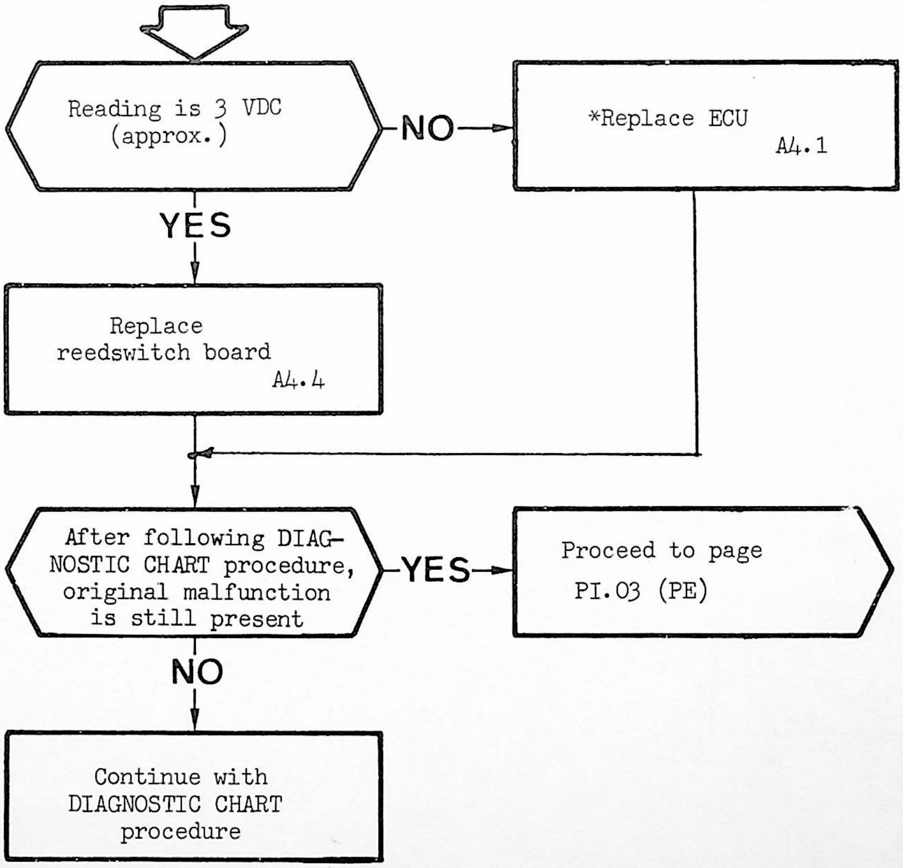
TEST
V0003
V0002*

REEDSWITCH AA

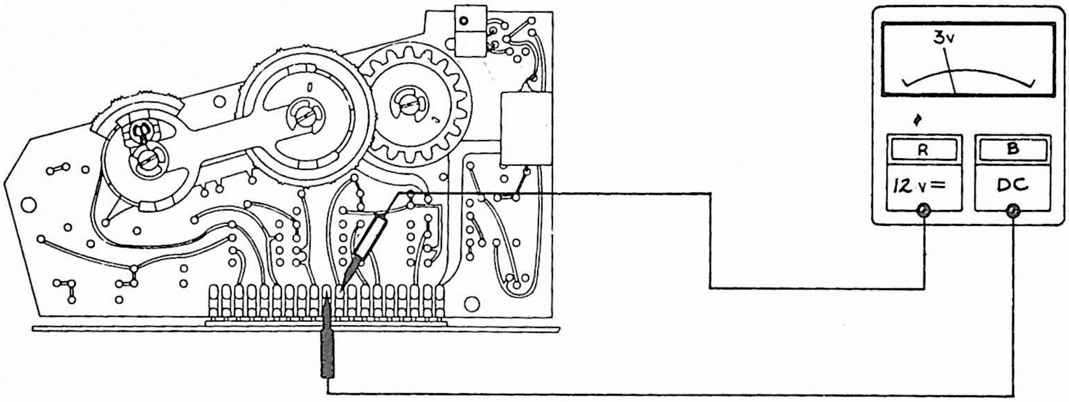
PRELIMINARY OPERATIONS

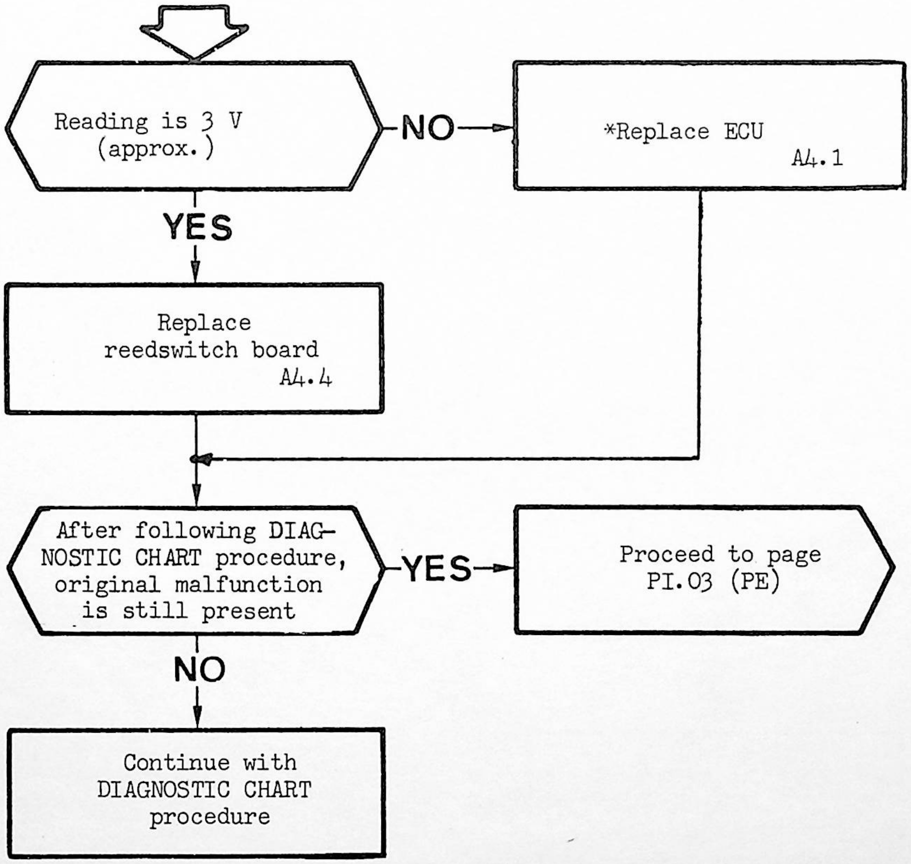
1 - Ensure that screen of AA reedswitch completely covers its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure (ensure that fastons shown make good contact)




Reading is 3 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST **V1003** **V1002***	REEDSWITCH AB
PRELIMINARY OPERATIONS	1 - Ensure that screen of AB reedswitch completely covers its magnet roll (A7.1) 2 - Insert line cord and turn power switch on 3 - Set VOM for a DC voltage measurement (scale 12V DC) 4 - Perform test as shown in figure



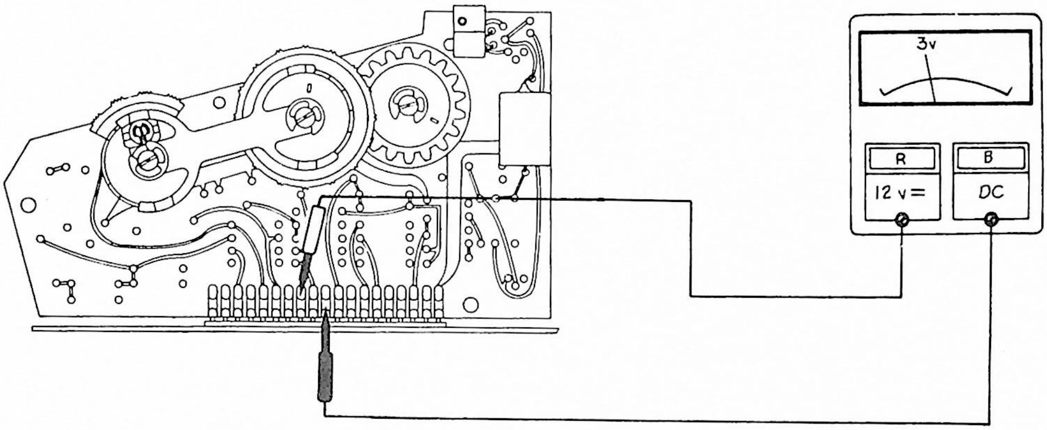

Reading is 3 V (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

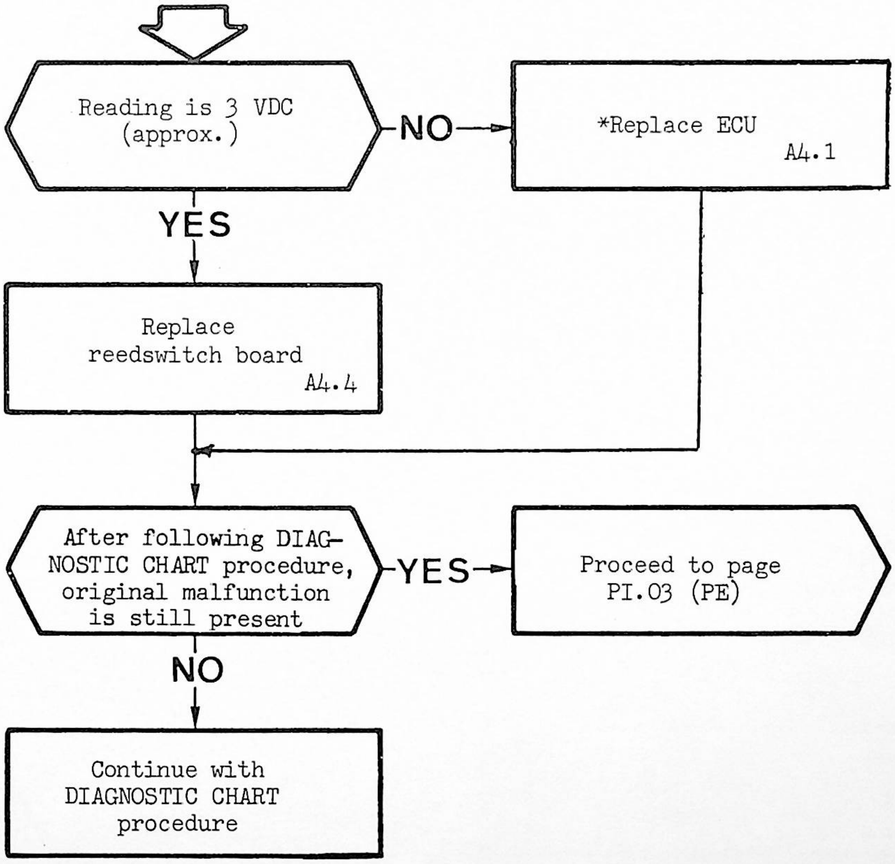
TEST
V2003
V2002*

REEDSWITCH AD

PRELIMINARY OPERATIONS

1 - Ensure that screen of AD reedswitch completely covers its magnet roll (A7.1)
2 - Insert line cord and turn power switch on
3 - Set VOM for a DC voltage measurement (scale 12V DC)
4 - Perform test as shown in figure





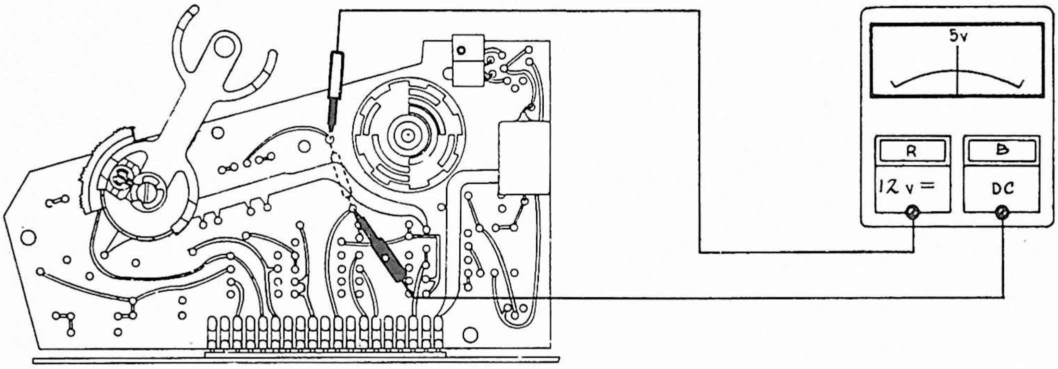
Reading is 3 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

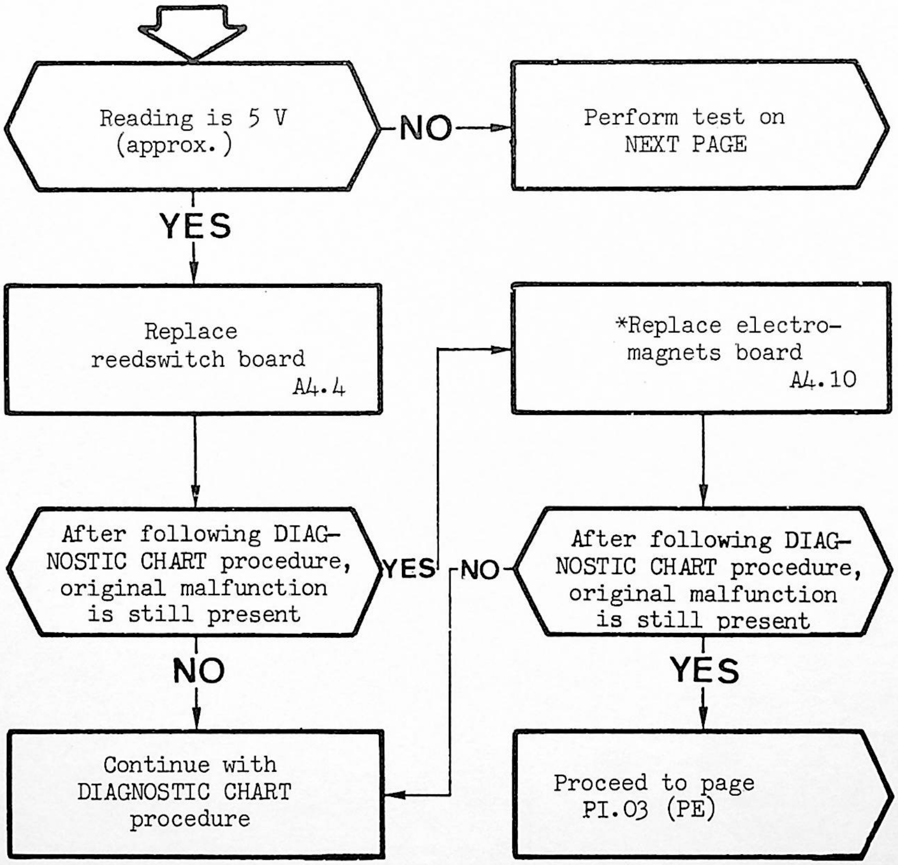
TEST
V3003
V3003*

REEDSWITCH AB

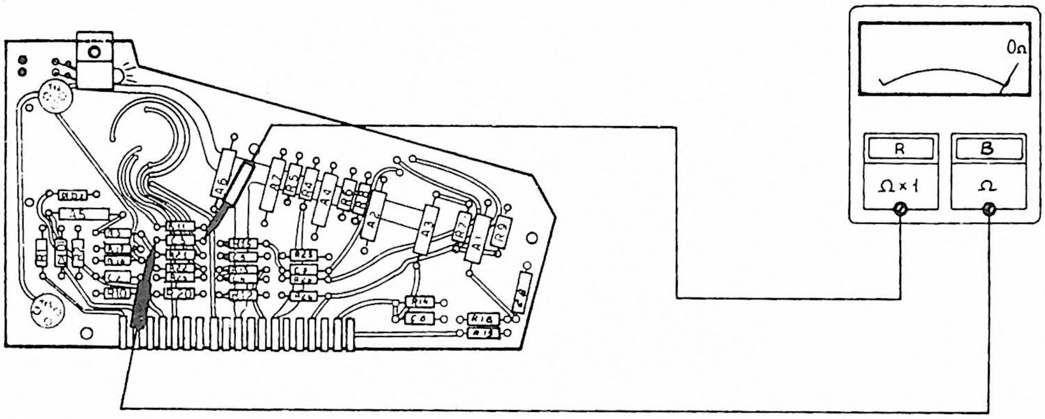
PRELIMINARY OPERATIONS

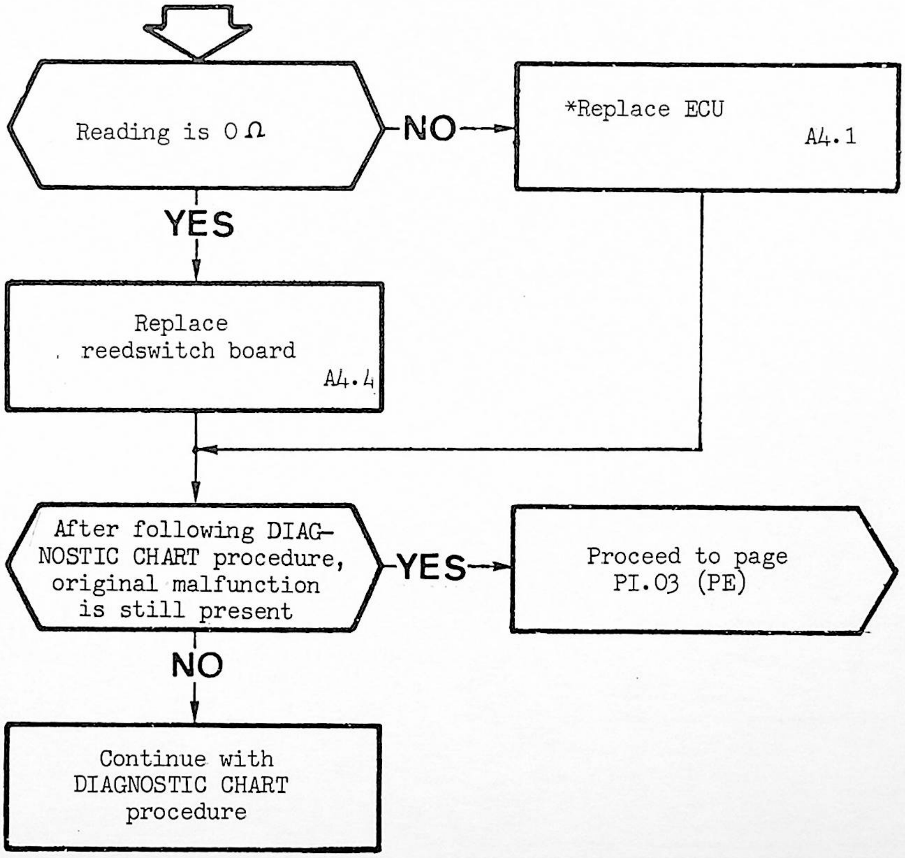
1 - Remove decimal wheel as shown in figure
2 - Manually move screen of AB reedswitch completely clear of its magnet roll (A7.1)
3 - Insert line cord and turn power switch on
4 - Set VOM for a DC voltage measurement (scale 12V DC)
5 - Perform test as shown in figure




Reading is 5 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
*Replace electromagnets board A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

TEST **V3013** **V3012***	CAPACITOR C3
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove reedswitch board 3 - Set VOM for a continuity check (scale Ω x 1) 4 - Perform test as shown in figure



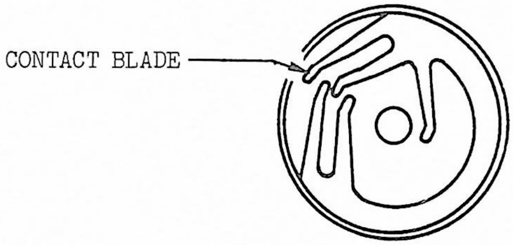

Reading is 0 Ω
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

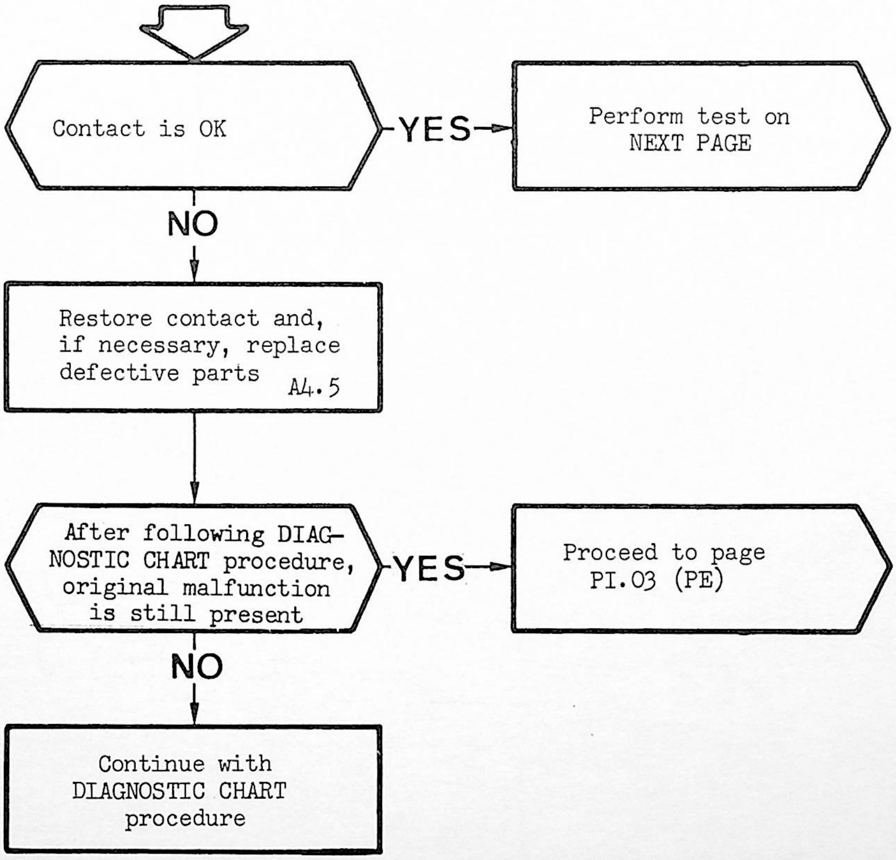
TEST V4003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contact between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



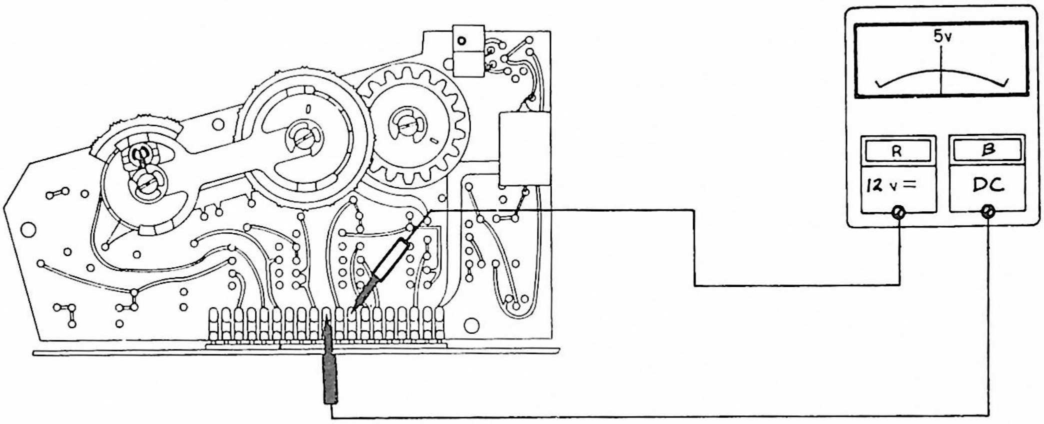

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

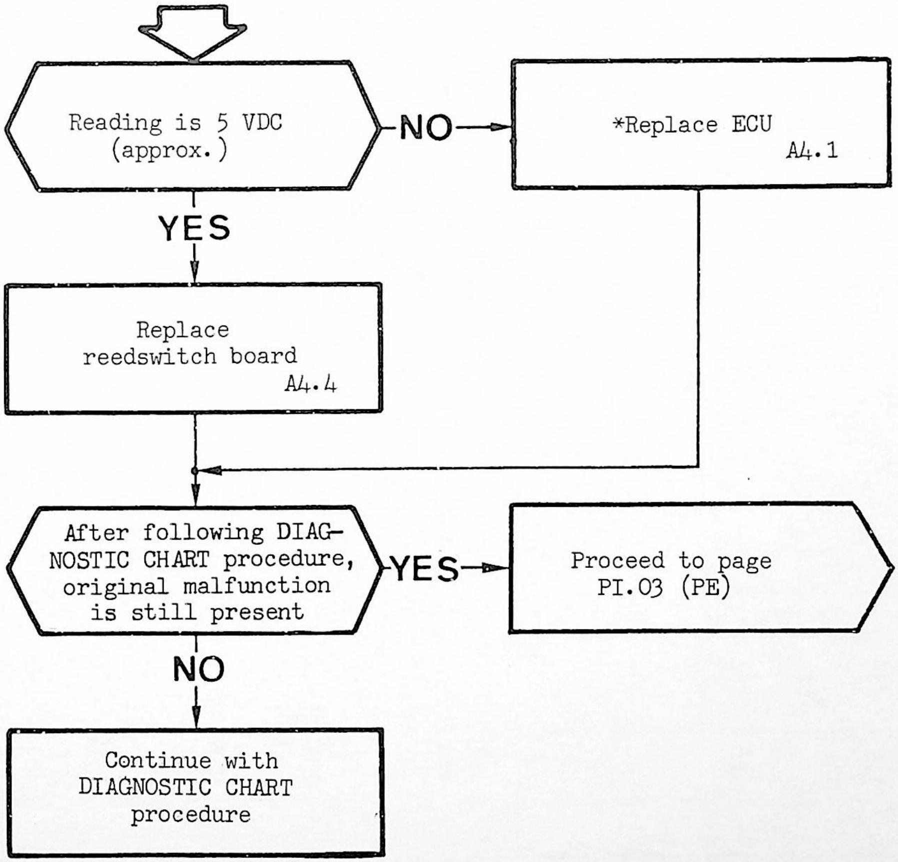
TEST
V4013
V4012*

SIGNAL AX1

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



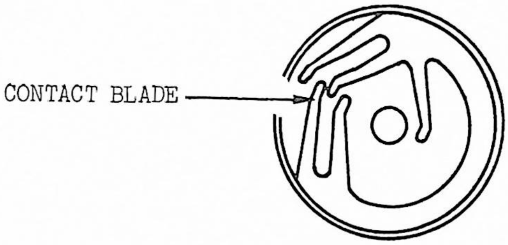

Reading is 5 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

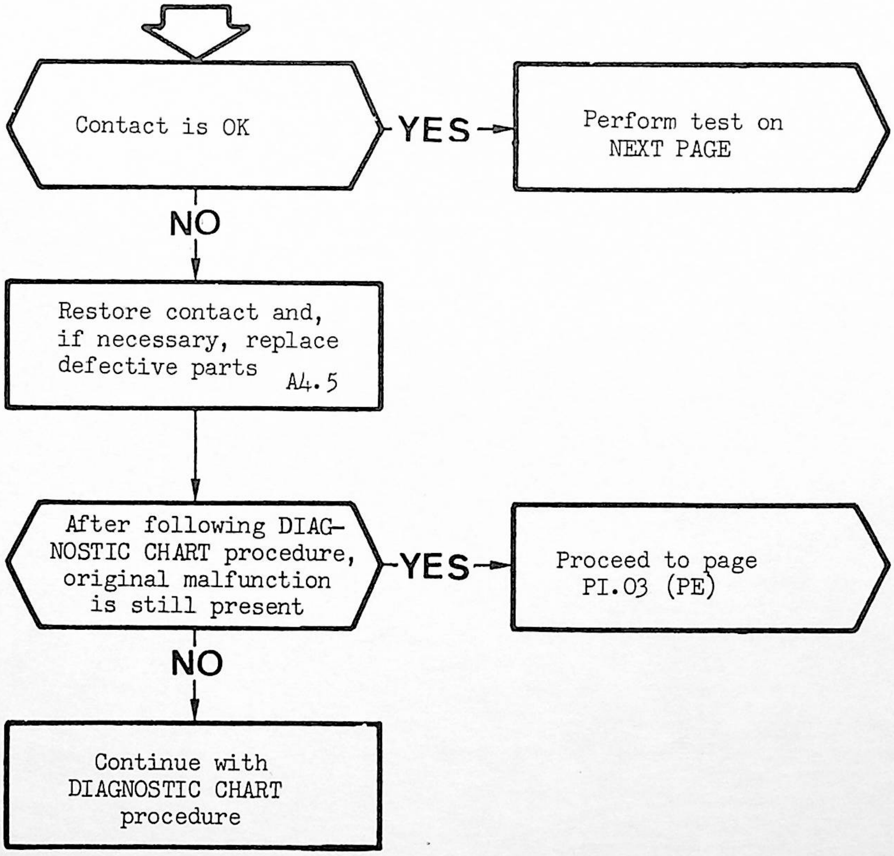
TEST V5003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect condition of contacts between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



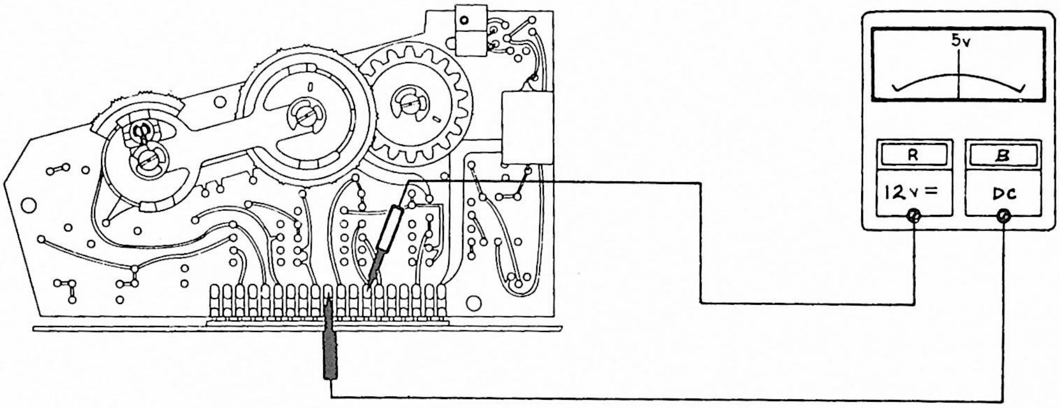

Contact is OK
YES
Perform test on NEXT PAGE
NO
Restore contact and, if necessary, replace defective parts A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

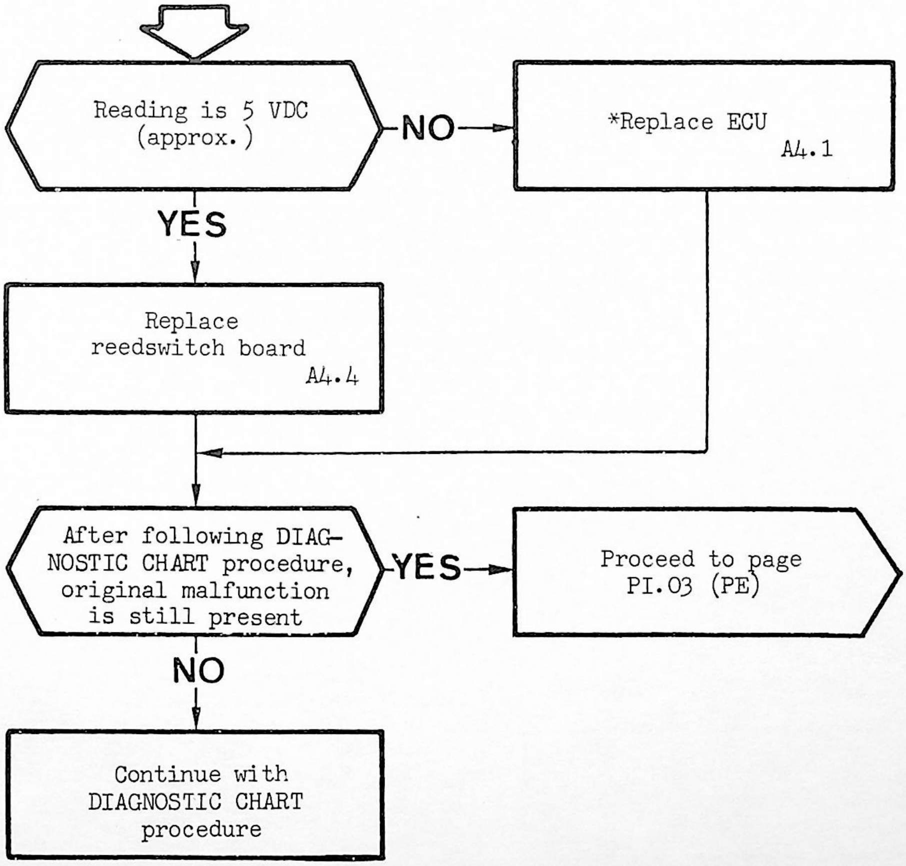
TEST
V5013
V5012*

SIGNAL AX2

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



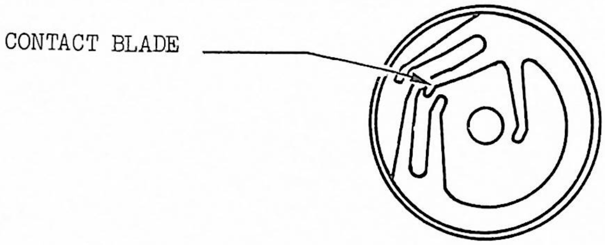

Reading is 5 VDC (approx.)
NO
*Replace ECU A4.1
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

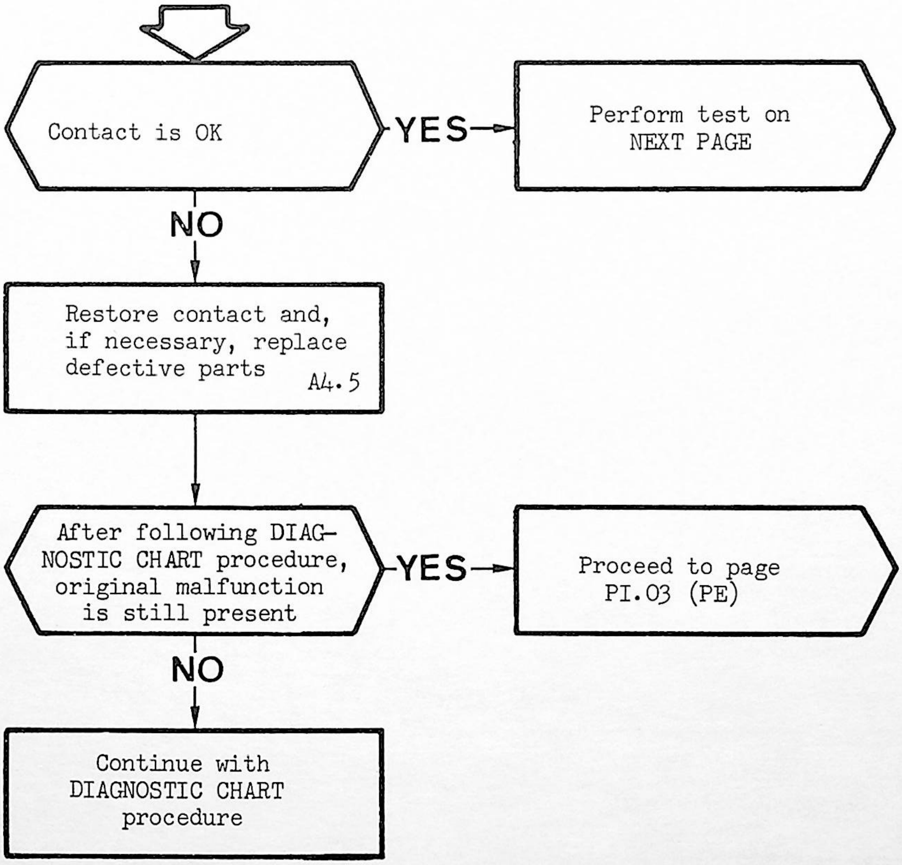
TEST V6003

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contacts between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)





Contact is OK

Perform test on NEXT PAGE

Restore contact and, if necessary, replace defective parts A4.5

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Proceed to page PI.03 (PE)

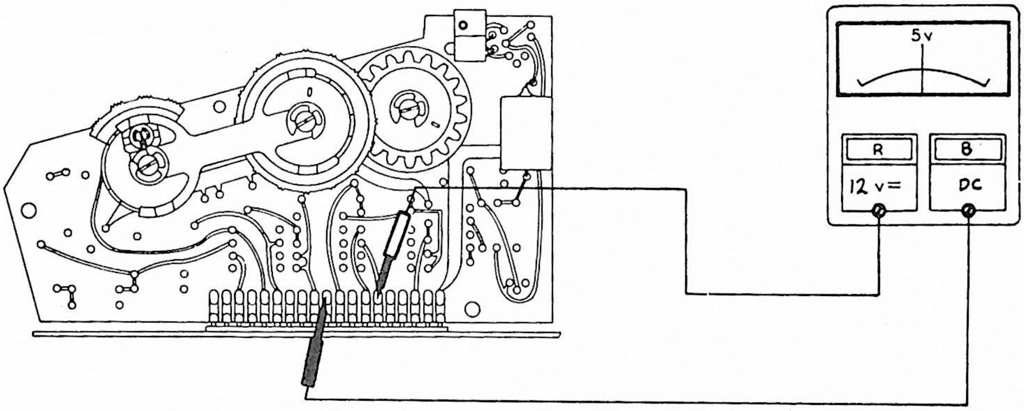
Continue with DIAGNOSTIC CHART procedure

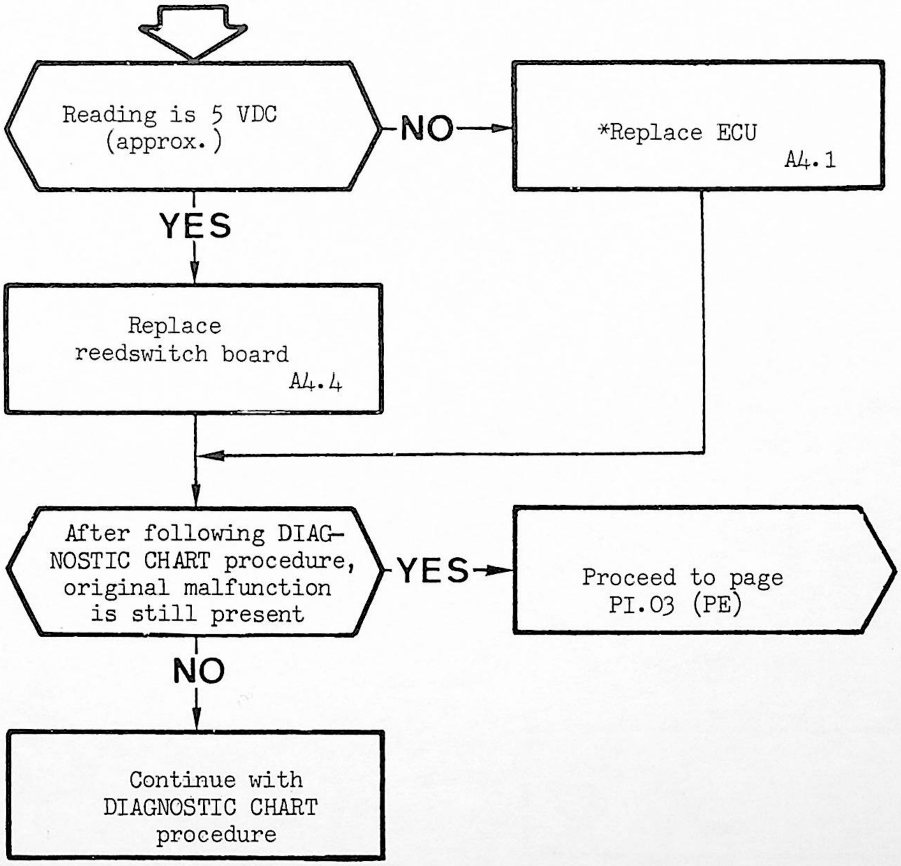
TEST
V6013
V6012*

SIGNAL AX3

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Set decimal wheel to 0 and round-off selector to 9
4 - Perform test as shown in figure (ensure that fastons shown make good contact)



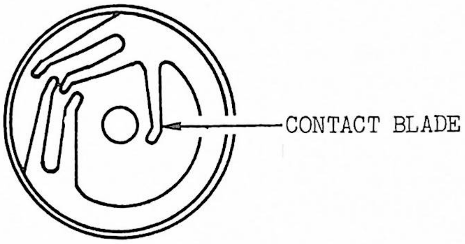

Reading is 5 VDC (approx.)
NO
*Replace ECU
A4.1
YES
Replace reedswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

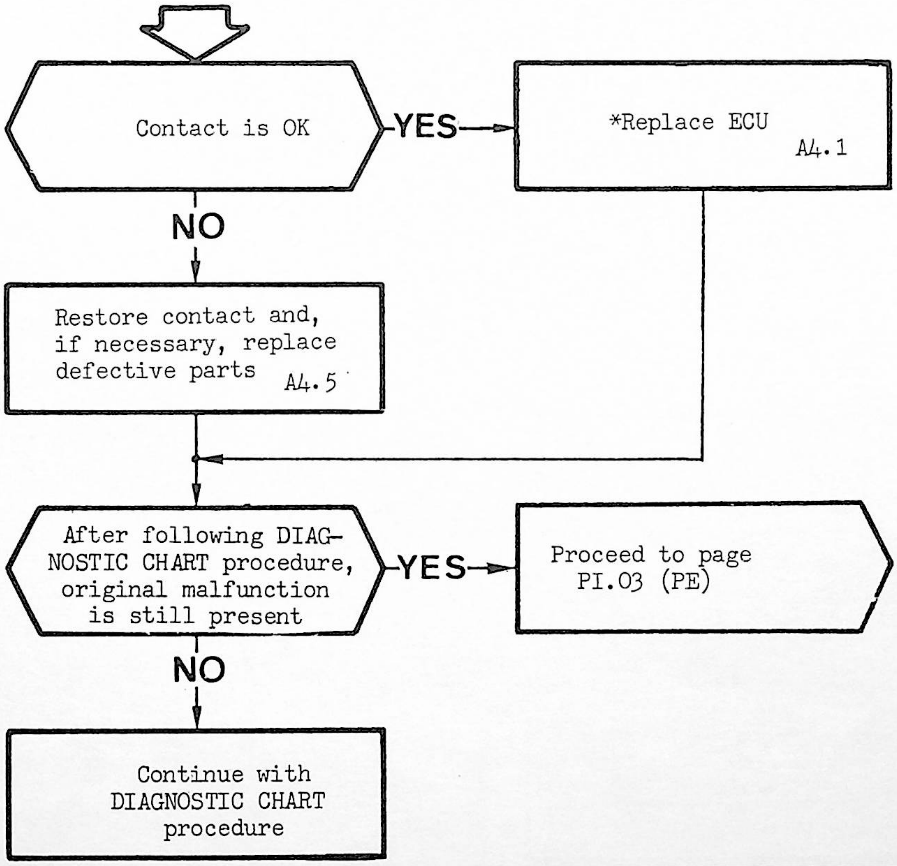
TEST
V7003
V7002*

DECIMAL WHEEL CONTACTS

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove decimal wheel, and inspect efficiency of contacts between printed circuit of reedswitch board and blade of decimal wheel shown in figure below (A4.5)



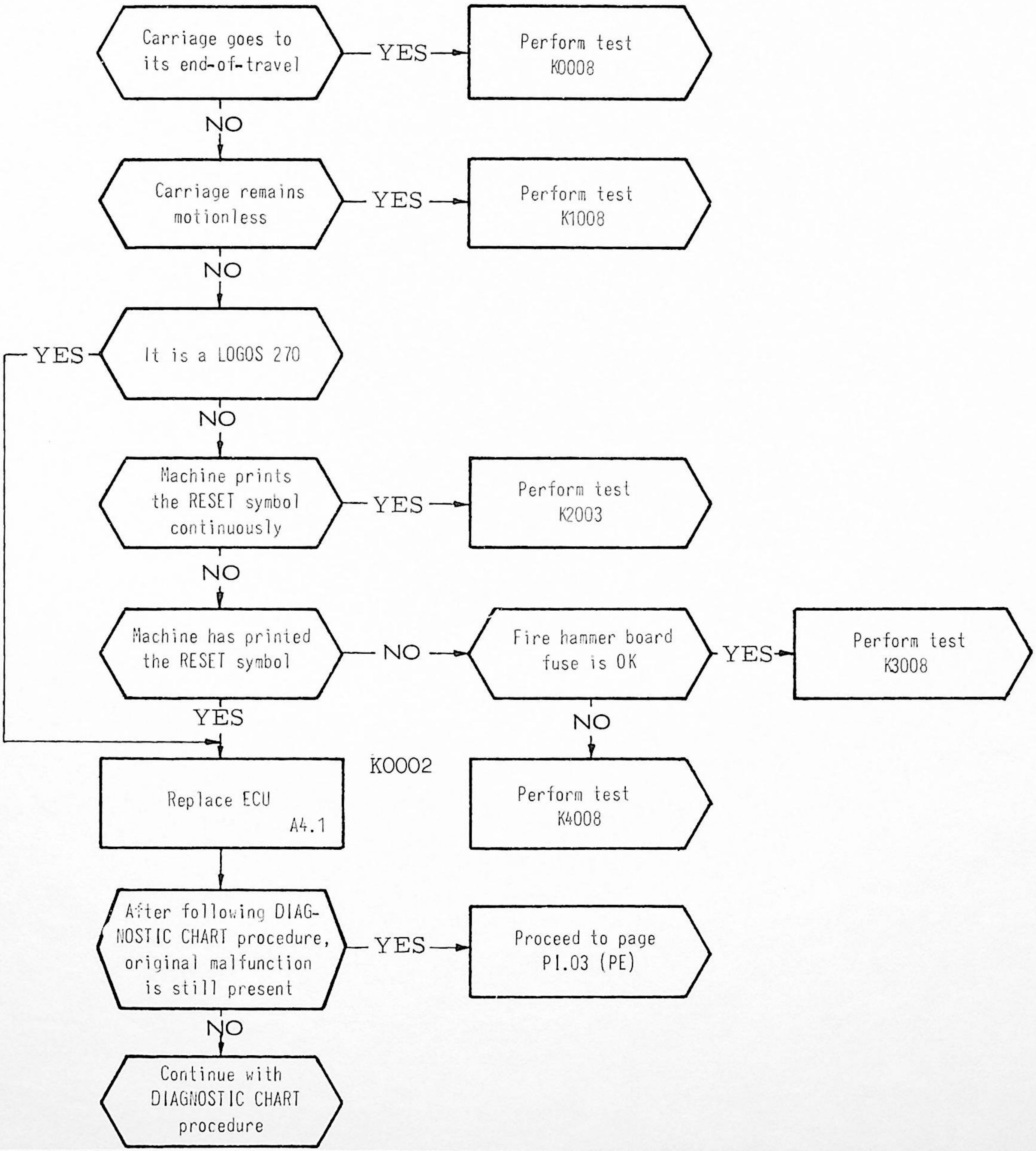

Contact is OK
YES
*Replace ECU
A4.1
NO
Restore contact and, if necessary, replace defective parts
A4.5
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

EXIT K

DOUBLE LINE SPACE DOES NOT WORK
MACHINE DOES NOT PRINT RESET SYMBOL (FOR L245)

MECHANICAL CHECKS

- Check carriage start and return mechanism
- Check line space mechanism
- Check AW microswitch

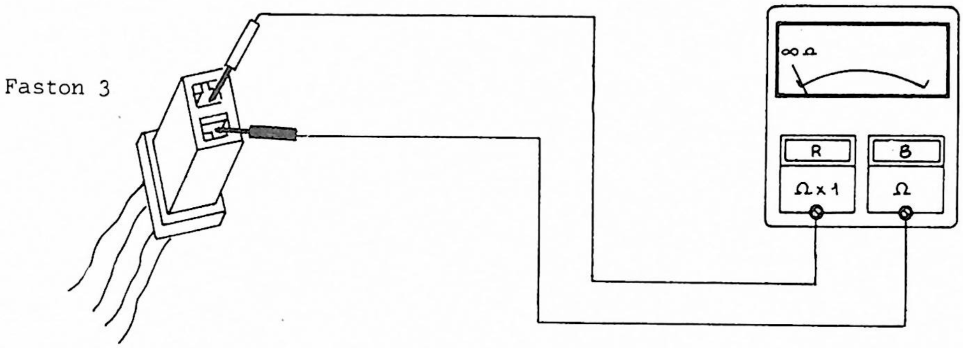

Carriage goes to its end-of-travel
YES
Perform test K0008
NO
Carriage remains motionless
YES
Perform test K1008
NO
YES
It is a LOGOS 270
NO
Machine prints the RESET symbol continuously
YES
Perform test K2003
NO
Machine has printed the RESET symbol
NO
Fire hammer board fuse is OK
YES
Perform test K3008
YES
NO
K0002
Replace ECU A4.1
Perform test K4008
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page P1.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

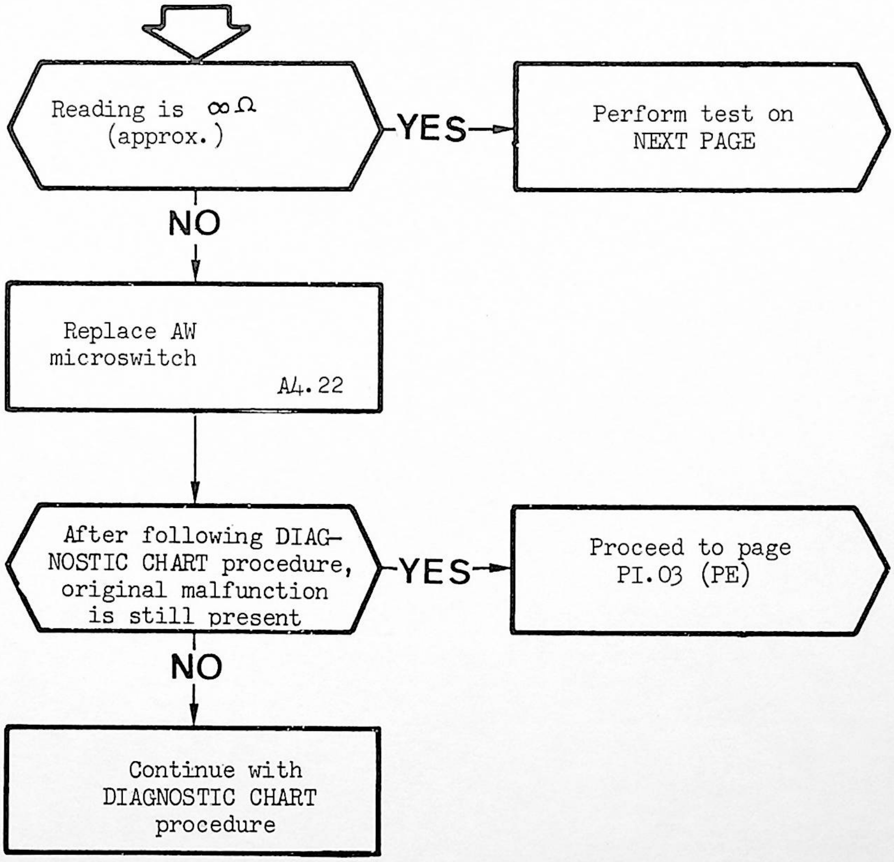
TEST
K0008

EFFICIENCY OF AW MICROSWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 3 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Push AW microswitch plunger in, and perform test as shown in figure



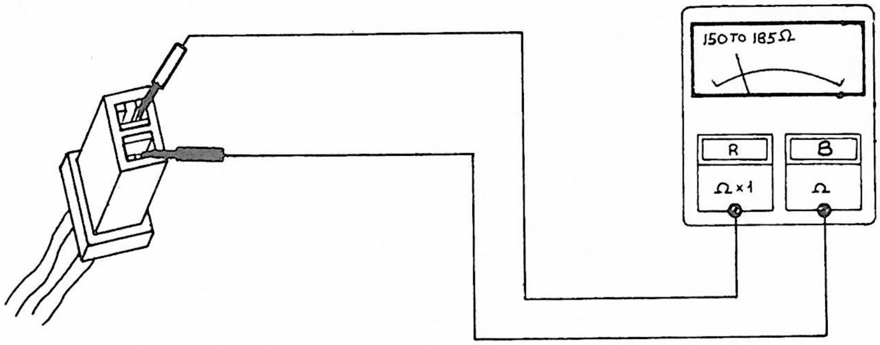

Reading is ∞ Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace AW microswitch
A4.22
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

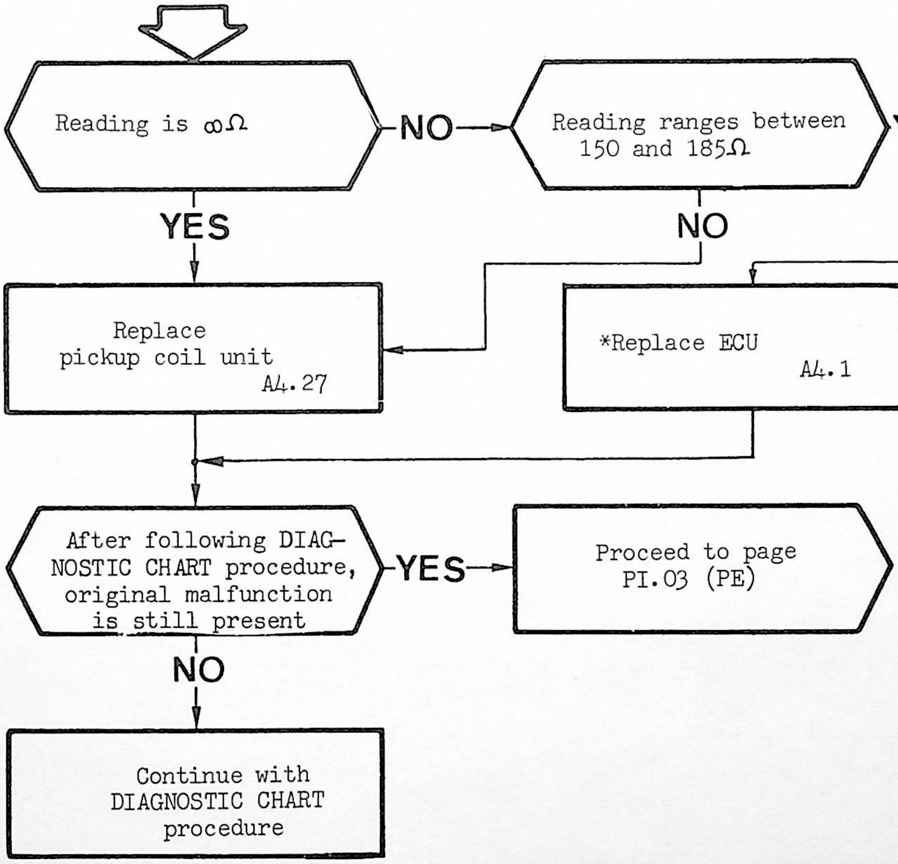
TEST
K0018
K0012*

PICKUP COIL

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect fastons 1 and 2 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, first on faston 1, then on faston 2



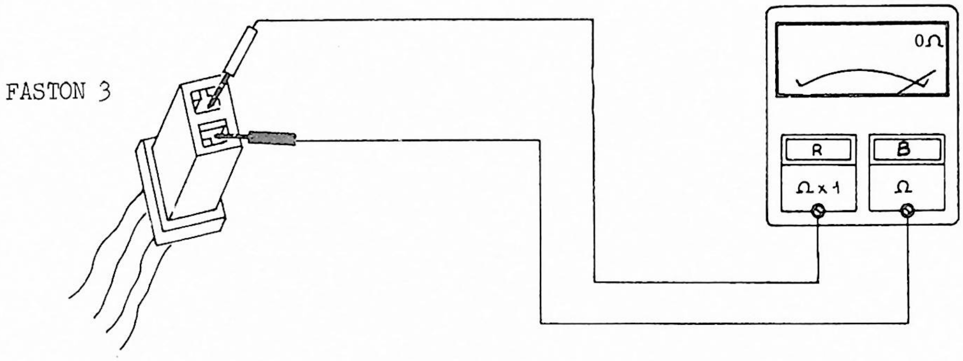

Reading is ∞Ω
NO
Reading ranges between 150 and 185Ω
YES
YES
NO
Replace pickup coil unit A4.27
*Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

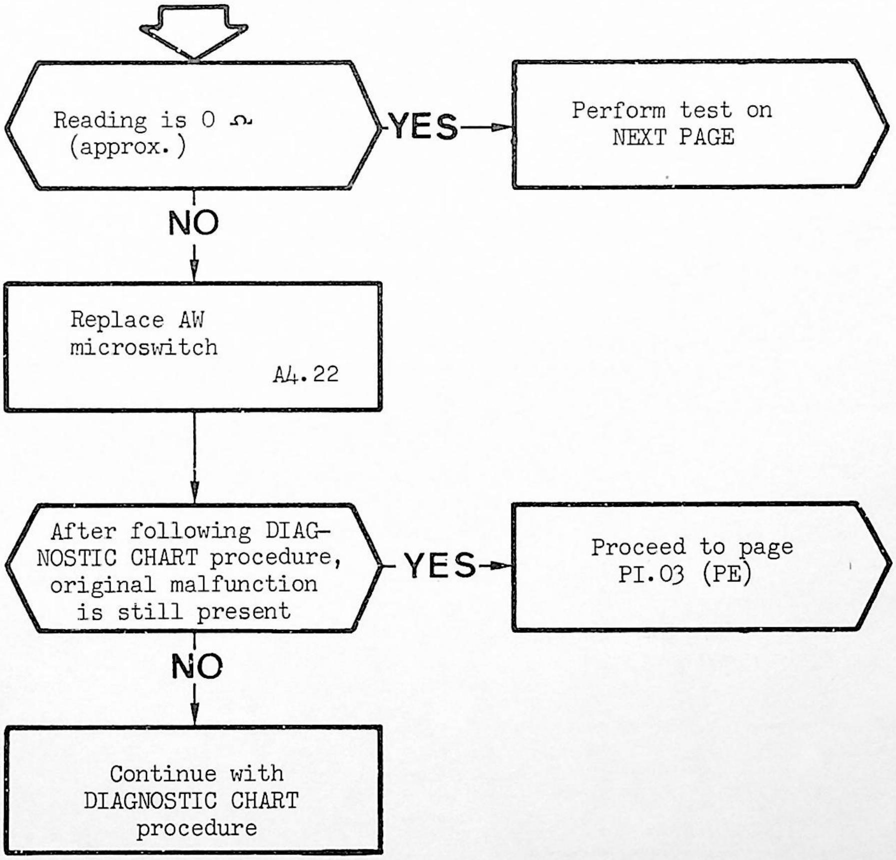
TEST K1008

EFFICIENCY OF AW MICROSWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 3 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Push AW microswitch plunger in, and perform test as shown in figure



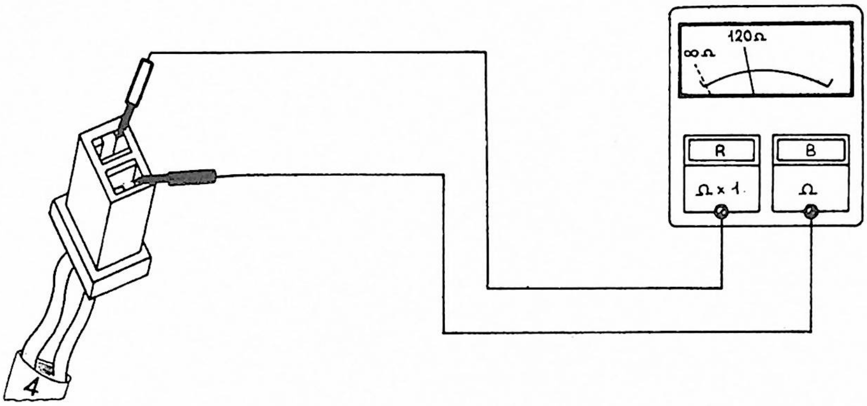

Reading is 0 Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace AW microswitch A4.22
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

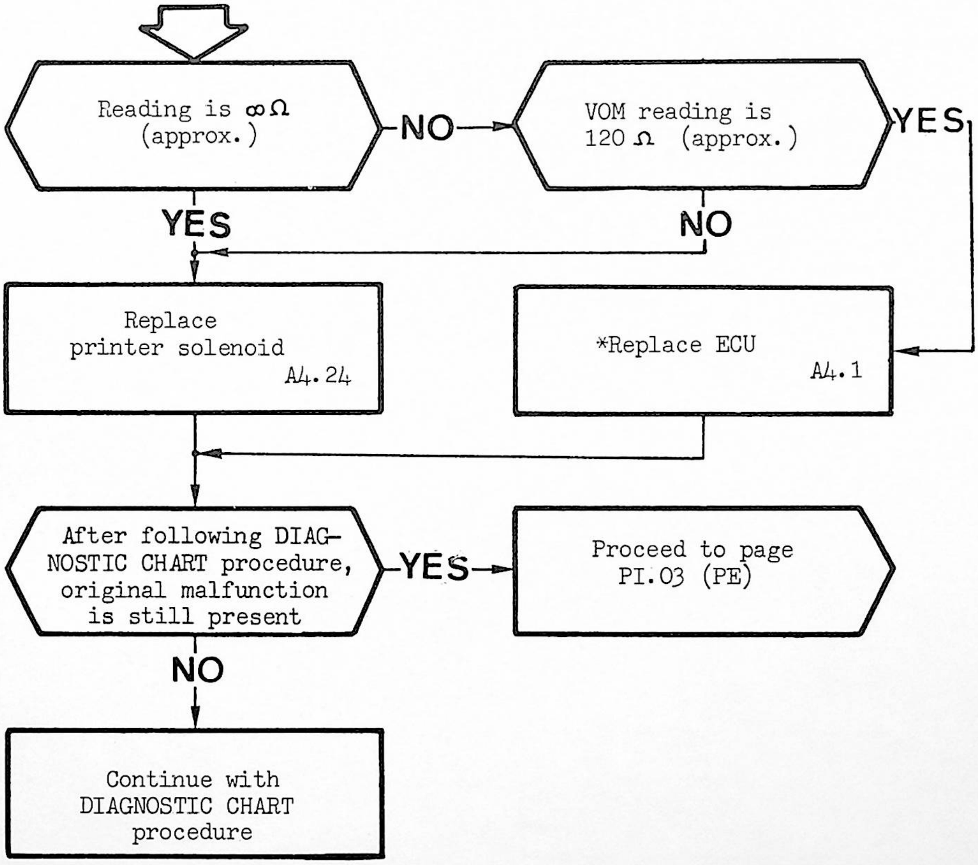
TEST K1018 K1012*

PRINTER SOLENOID

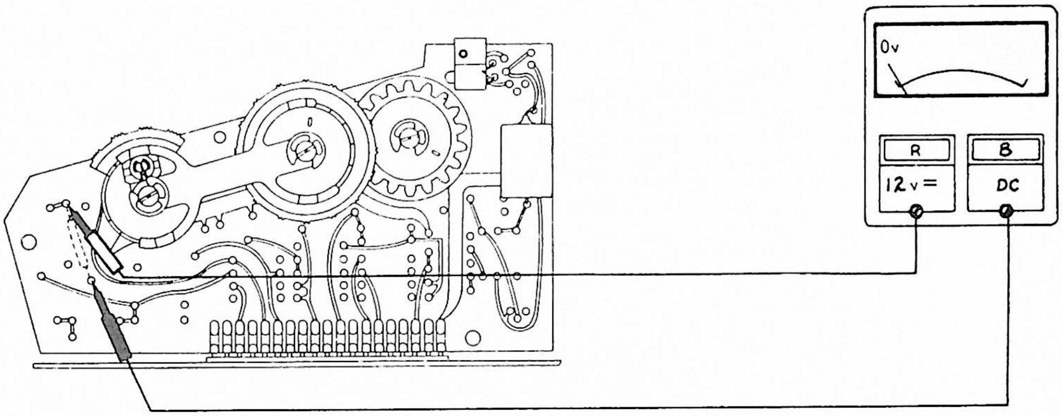
PRELIMINARY OPERATIONS

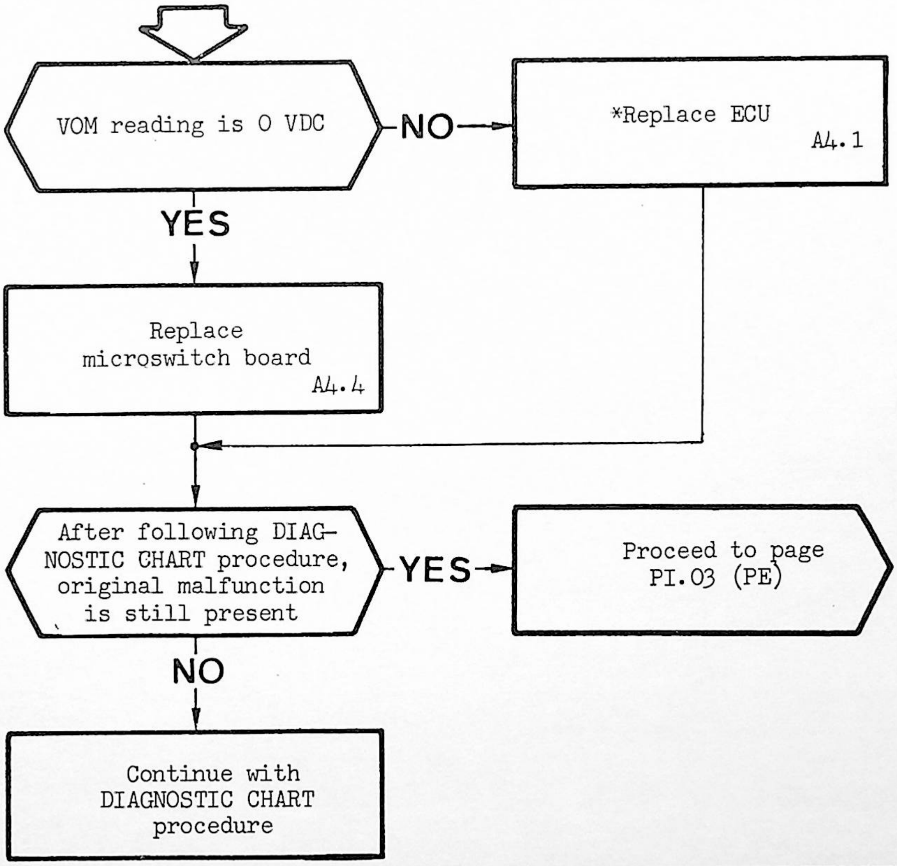
1 - Remove line cord
2 - Remove faston 4 of printer solenoid
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




Reading is ∞Ω (approx.)
NO
VOM reading is 120 Ω (approx.)
YES
YES
NO
Replace printer solenoid A4.24
*Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST K2003 K2002*	AK REEDSWITCH
PRELIMINARY OPERATIONS	1 - Ensure that AK dry reedswitch screen covers the magnet roll (A7.1) 2 - Set VOM for a DC voltage measurement (scale 12V DC) 3 - Insert line cord and turn power switch on 4 - Perform test as shown in figure





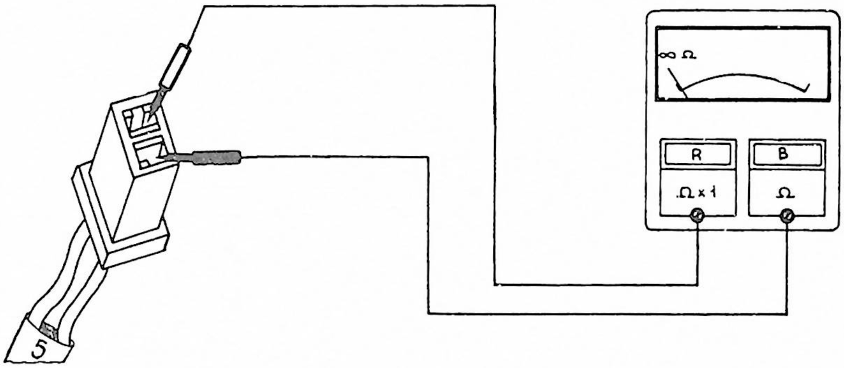
VOM reading is 0 VDC
NO
*Replace ECU
A4.1
YES
Replace microswitch board
A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

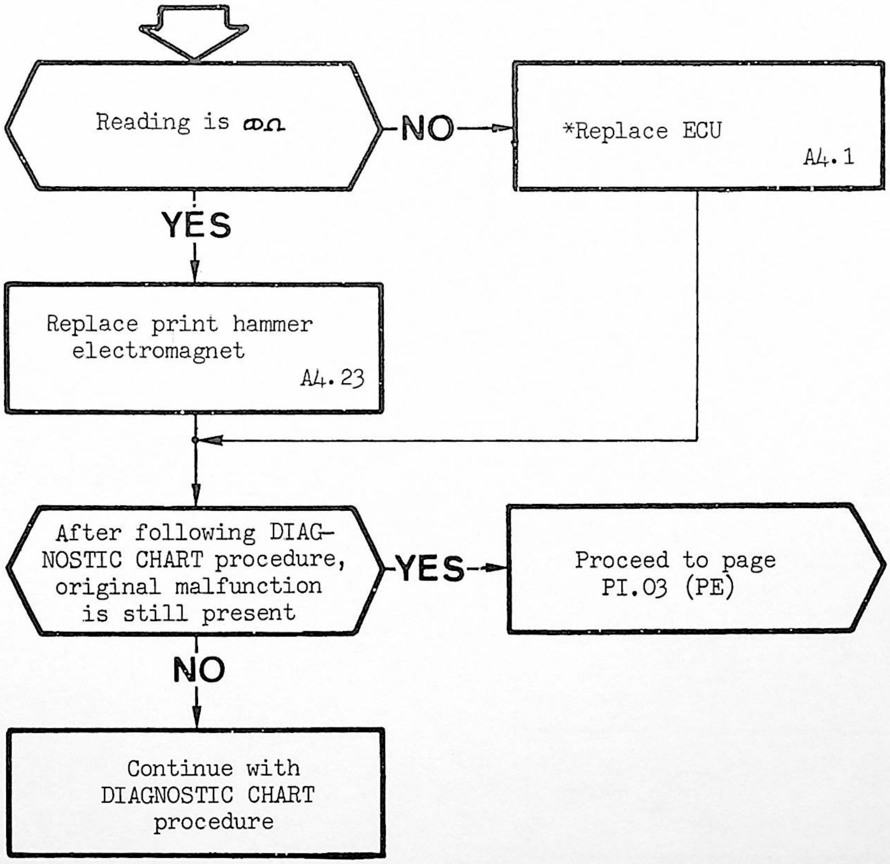
TEST
K3008
K3002*

PRINT ELECTROMAGNET

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 5 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



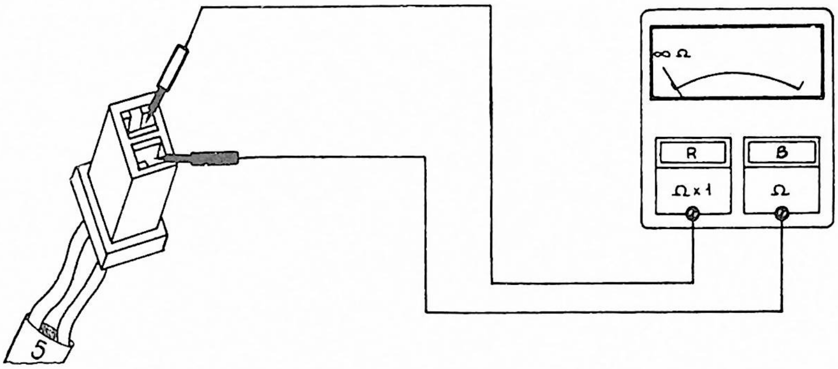

Reading is ∞Ω
NO
*Replace ECU
A4.1
YES
Replace print hammer electromagnet
A4.23
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

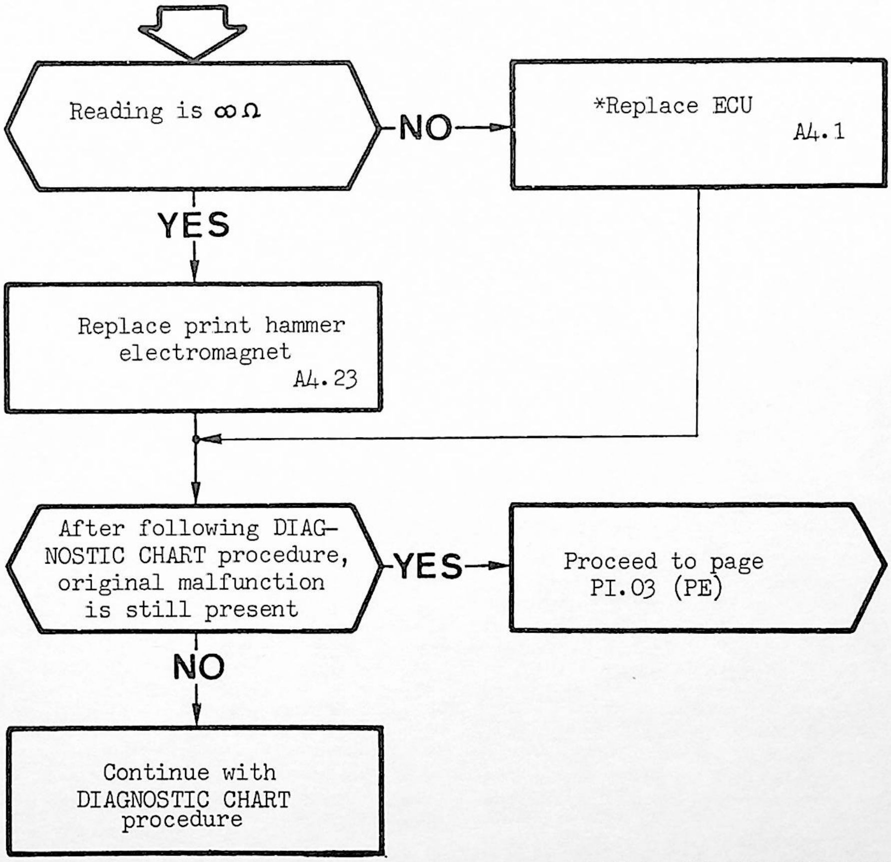
TEST
K4008
K4002*

PRINT ELECTROMAGNET

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 5 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




Reading is ∞ Ω
NO
*Replace ECU
A4.1
YES
Replace print hammer electromagnet
A4.23
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

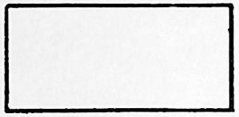
MECHANICAL ADJUSTMENTS

APPENDIX A3 INDEX

Fig.		Page
	Guide to interpret the adjustment figures	A3. 1
	PRINT UNIT ADJUSTMENTS:	A3. 7
1	Angular position of the carriage engagement controlling bridge	A3. 8
2	Amount of printer solenoid control	A3.10
3	Engagement of the carriage movement rack	A3.12
4	Timing between the character drum and the carriage movement rack	A3.13
5	Maximum travel of the carriage	A3.15
6	Timing between strobe wheel and the character drum	A3.16
7	Position of the pick-up coil	A3.17
8	AW microswitch	A3.18
9	Rest position of the fire hammer	A3.22
10	Striking power of the fire hammer	A3.23
	KEYBOARD UNIT ADJUSTMENTS:	A3.25
1	Entry clutch engagement	A3.26
2	Time switch	A3.28
3	Angular position of the rear setting bail	A3.31
4	Angular position of the front setting bail	A3.32
5	Amount of travel of the restoring bail	A3.33
6	Coding bar lock mechanism	A3.35
7	Angular position of the AK reedswitch screen	A3.38
8	Double entry keyboard lock	A3.40
9	Keyboard lock during the operation	A3.44
	PAPER FEED UNIT ADJUSTMENTS:	A3.47
1	Amount of control of the automatic line space	A3.48
2	Exclusion of carriage movement rack engagement	A3.50
3	Closing of the manual line space microswitch	A3.52
	RIBBON UNIT ADJUSTMENT:	A3.53
1	Amount of ribbon feed	A3.54

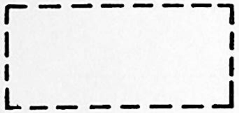
After performing the adjustments indicated, continue the procedure, resuming it from the point in which it was interrupted.

GUIDE TO INTERPRET THE ADJUSTMENT FIGURES



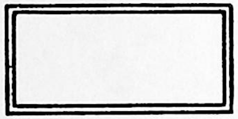
PRELIMINARY OPERATIONS

This frame illustrates an operation necessary to bring the machine in the proper condition to make the adjustment.



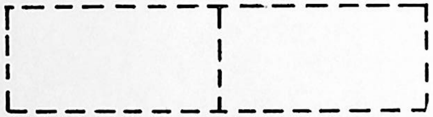
INSPECTION

This frame illustrates the clearance to be checked.



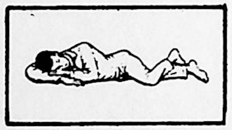
OPERATION (ADJUSTMENT)

This frame illustrates the operation necessary to obtain the required clearance.



INSPECTION IN MOVEMENT

The condition to be checked, shown in half of the frame, is checked while the operation shown in the adjacent area is performed.



MACHINE TO REST

This frame indicates that the machine must be placed in a rest condition, manually or electrically.

SEE
APPX A.4

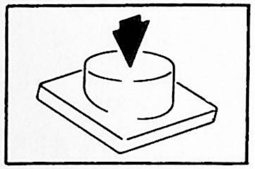
PROCEDURES

This frame indicates the description of a generally complex operation.

% A3.14

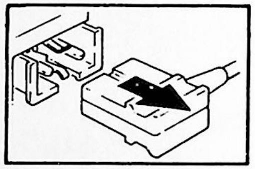
CONTINUE ON

This frame indicates the page where an adjustment is to be continued.
This symbol is only used for the adjustments illustrated on many subsequent figures.



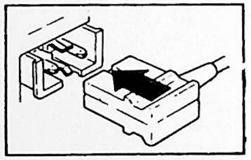
DEPRESS THE KEY

This frame indicates key depression. If the illustration of the key does not indicate a specific sign, the depression of any key is understood.



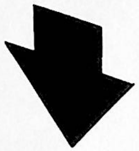
REMOVE THE LINE CORD

This frame indicates that the machine must be disconnected from the power source.



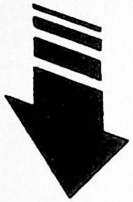
CONNECT THE LINE CORD

This frame indicates that the machine must be connected to the power source.



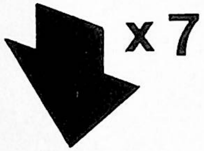
CONTROL

This arrow indicates at what point and in what direction a part is to be moved.



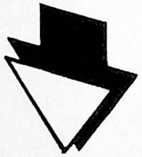
SLOWLY CONTROL

This arrow indicates that the part must be moved slowly.



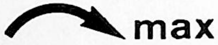
REPEAT CONTROL

The operation must be repeated as many times as the number shows.



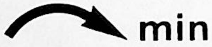
KEEP

The symbol shows that the part must be maintained in the position reached as a result of movement in the direction of the arrow.



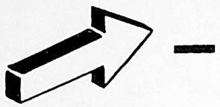
MAXIMUM MOVEMENT

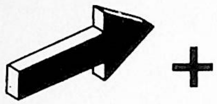
Indicates the maximum movement made by the part in the direction of the arrow. (Adjustment should be accomplished at the instant that the maximum condition is reached.)



MINIMUM MOVEMENT

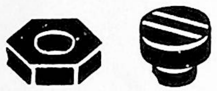
Indicates the minimum movement made by the part in the direction of the arrow. (Adjustment should be accomplished at the instant that the minimum condition is reached.)





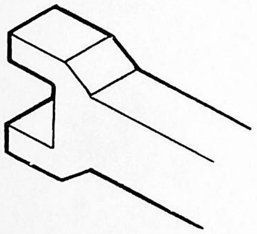
DIRECTION OF ADJUSTMENT

The arrows indicate the direction in which a part has to be moved in order to obtain the desired clearance.
If the clearance checked is smaller than the desired one, use + direction.
If the clearance checked is larger than the desire one, use - direction.
If an adjustment consists in the equality of two clearances (for example L = L1), the clearance referred to by the direction of adjustment is always the first one (L).



ADJUSTMENT

The screw or nut shown Negatively must be loosened in order to perform the adjustment.



FORM

This illustration indicates the point on a part that must be formed. The adjustment can be performed with a Former or other suitable tool.

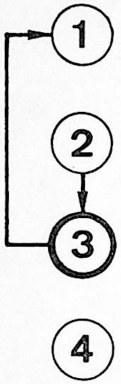
L

SMALL CLEARANCE

Check that the
printed charac-
ters are not
cut on top nor
on the bottom

DESCRIBED OPERATION

This frame with a description of the operation to be performed is used whenever a graphic representation will not suffice.



RELATIONSHIP BETWEEN ADJUSTMENTS

These symbols indicate the relationship between the adjustments to be performed (indicated by the circle drawn in heavy ink) and other adjustments. The outgoing line indicates that the adjustment affects the one which is connected (for example, adjustment 3 affects adjustment 1).
The connecting line that enters indicates that the adjustment is dependent on the one which is connected (for example, adjustment 3 depends on adjustment 2). If the connecting lines are missing, the adjustment is independent from others (for example, adjustment 4).
All the adjustments enclosed in a circle belong to the same unit.

REMARKS RELATED TO THE ADJUSTMENT FIGURES

- All frames that illustrate operations, conditions, and procedures related to the adjustments to be performed are progressively numbered.

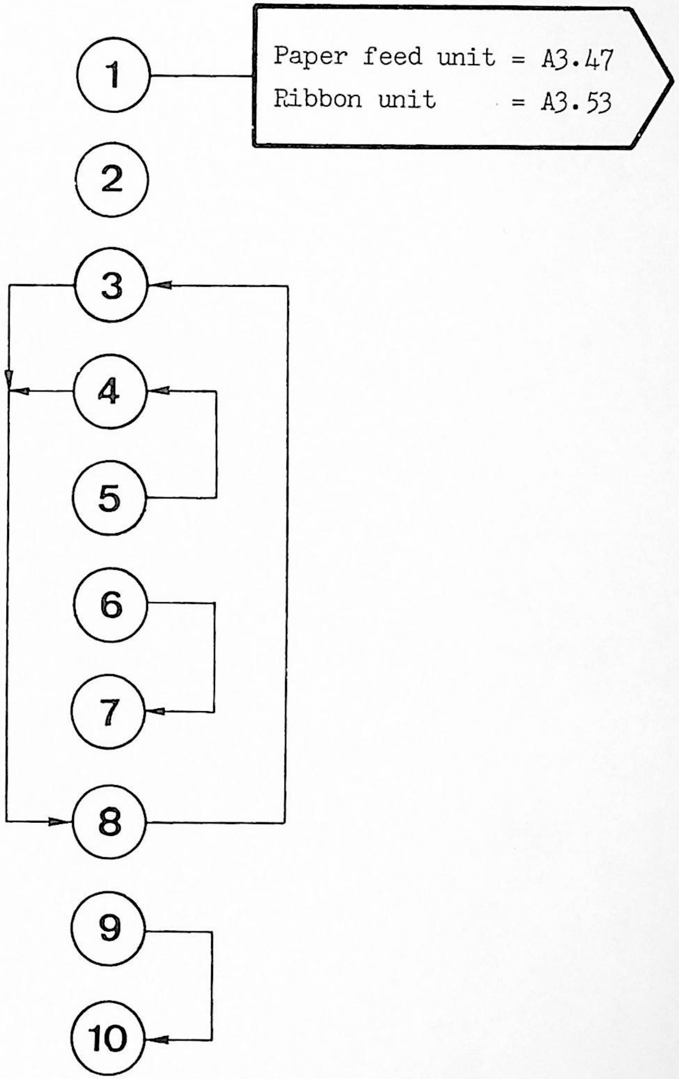
- In the performance of the adjustment it is understood that the removal of the case must be performed before any other operation.

- If during the adjustment it was necessary to remove parts from the machine, it is understood that these parts must be reassembled at the end of the adjustment.

- A knowledge of the use of a VOM is presupposed during adjustment procedures requiring meter application.

NOTE: It is very important to pay attention to the notes written on the bottom of the illustration pages.

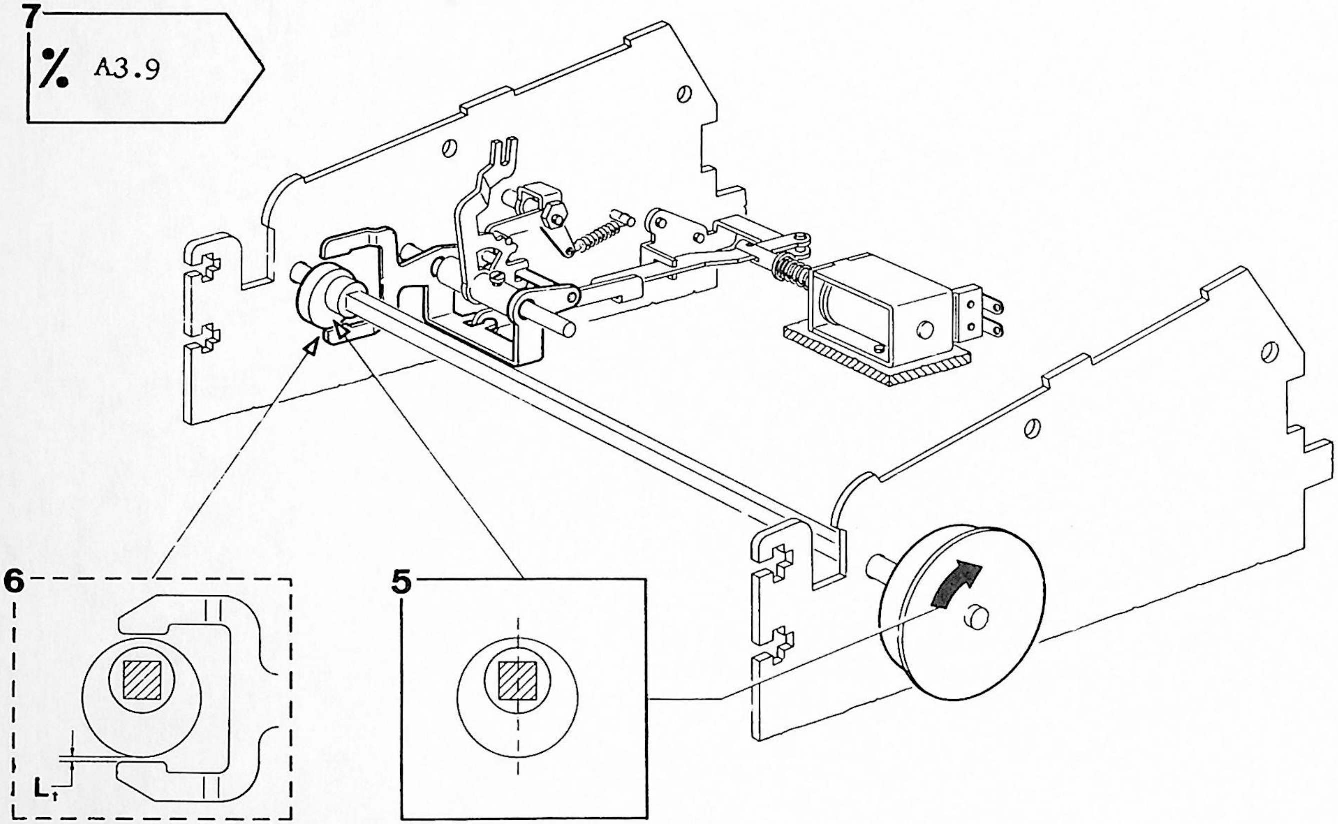
PRINT UNIT ADJUSTMENTS

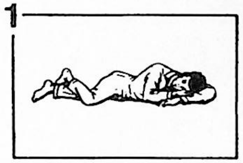


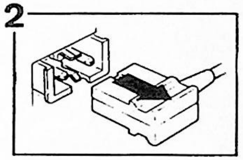
① ADJUSTING THE ANGULAR POSITION OF THE CARRIAGE ENGAGEMENT CONTROLLING BRIDGE

In every printing phase, the carriage engagement controlling bridge must be able to freely engage its two arms on the print cam.

7 % A3.9

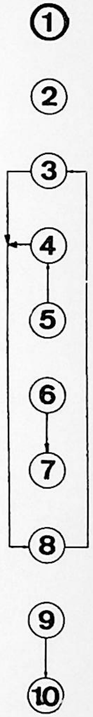




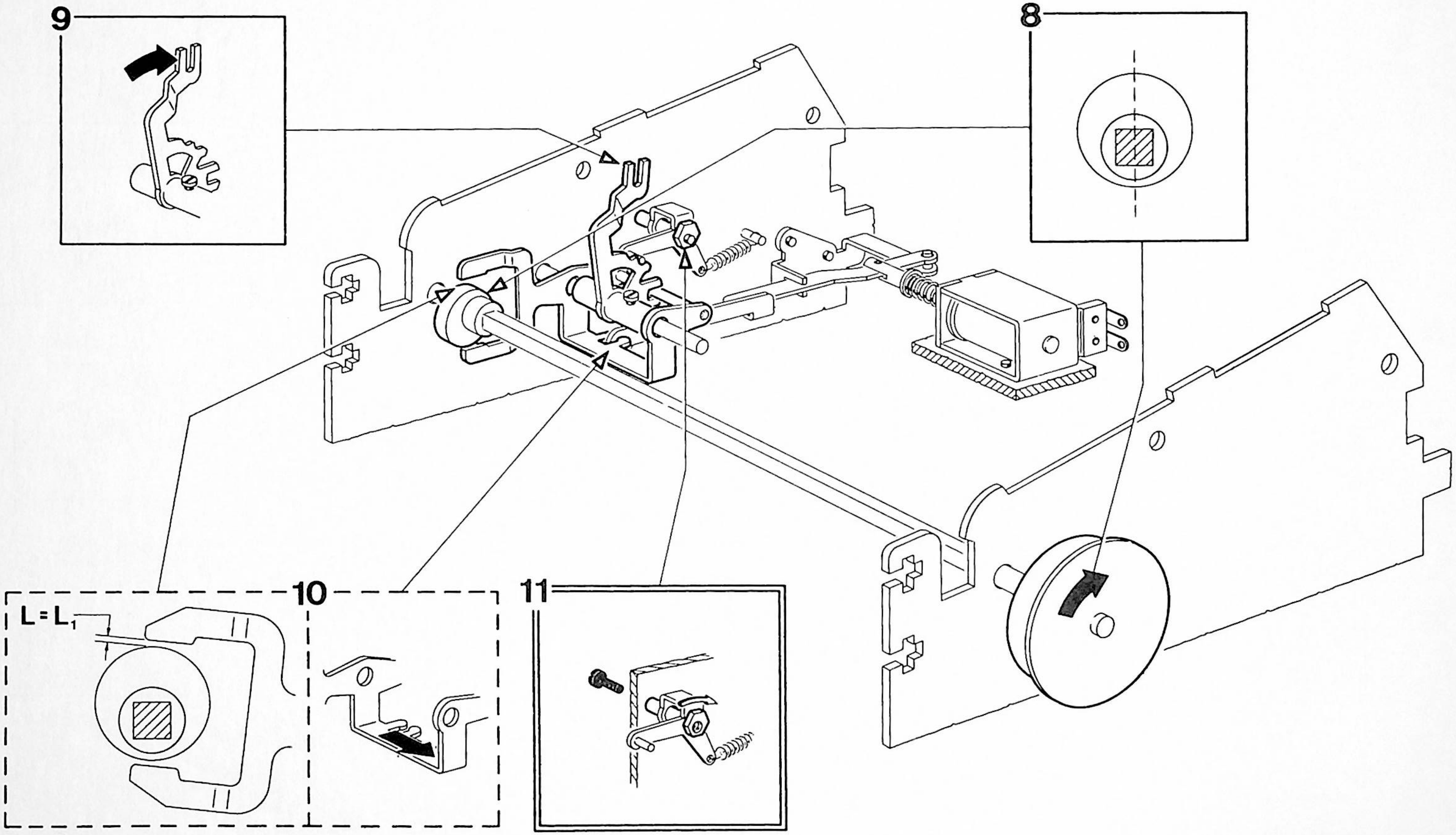


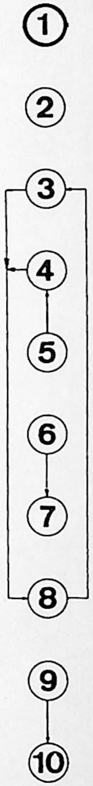
3 Paper cutter removal A4.21

4 Removal of the AW plate A4.28



Adjusting the angular position of the carriage engagement controlling bridge (continuation)

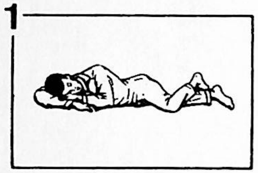




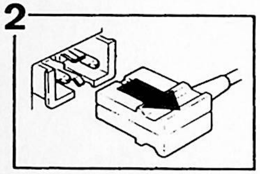
② ADJUSTING THE AMOUNT OF PRINTER SOLENOID CONTROL

At the beginning of every printing phase, the condition illustrated on page A3.11 (frame 2) must be achieved.

1



2

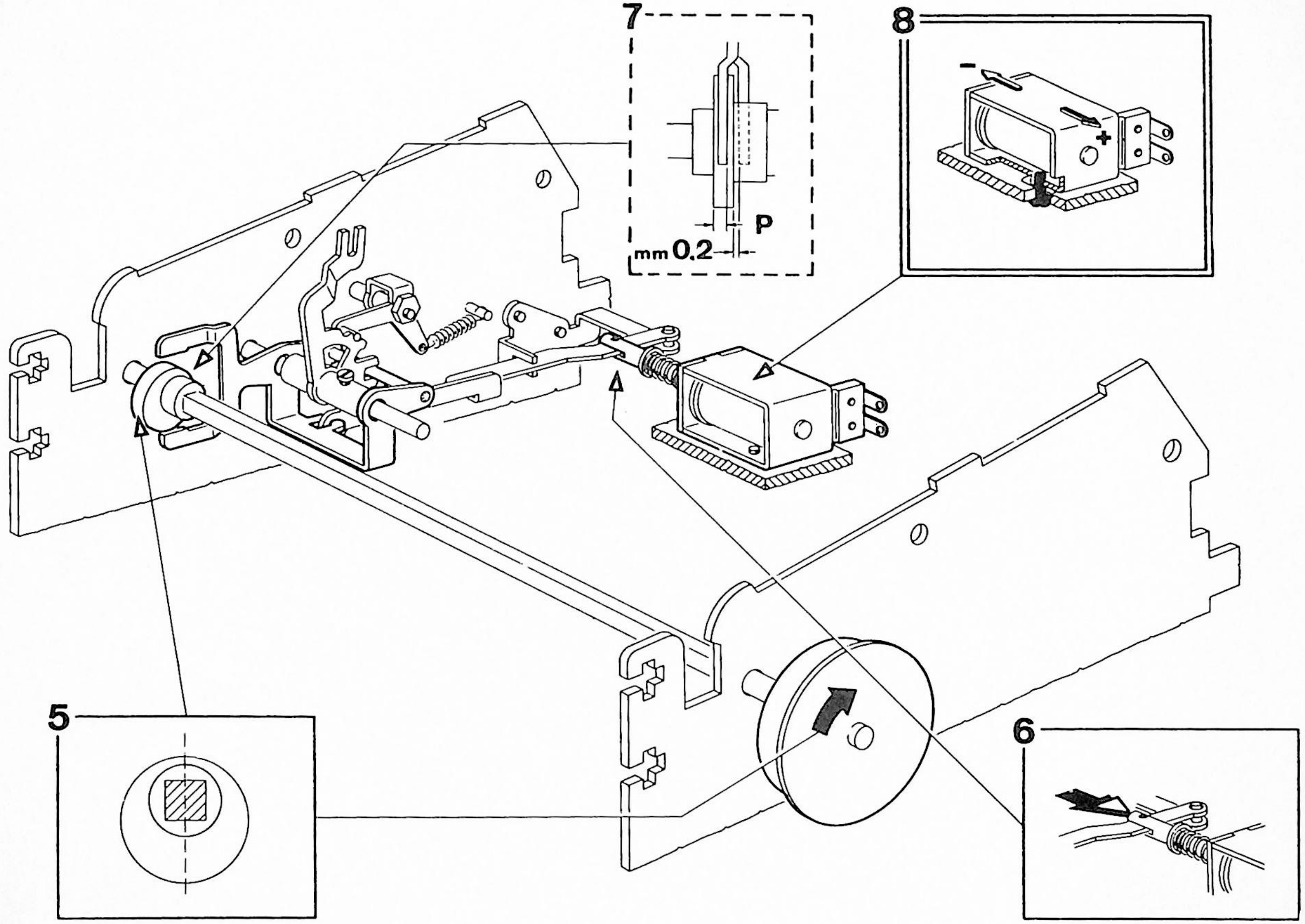


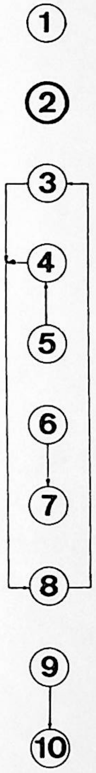
3

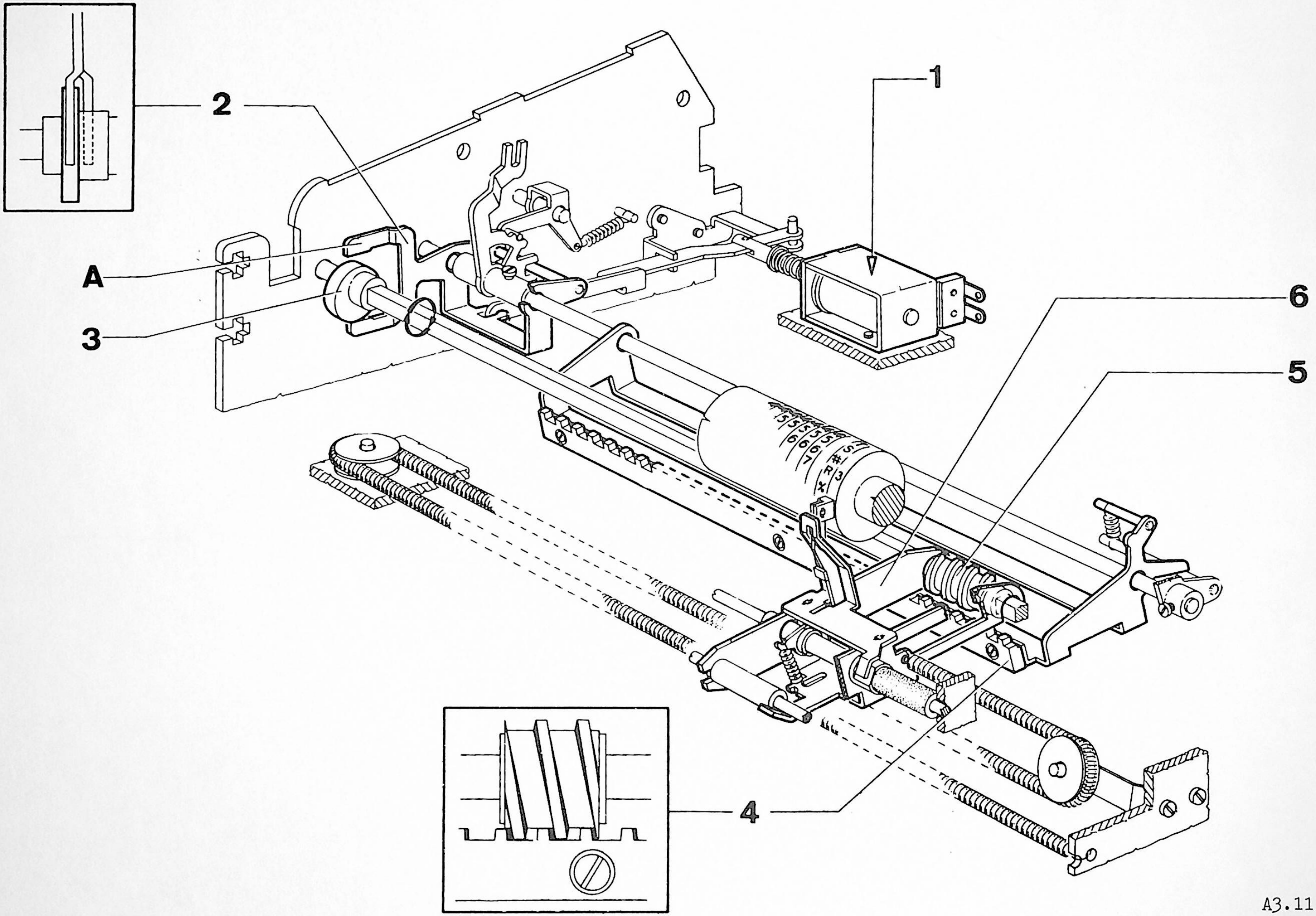
Print unit
removal A4.20

4

Removal of the
AW plate A4.28

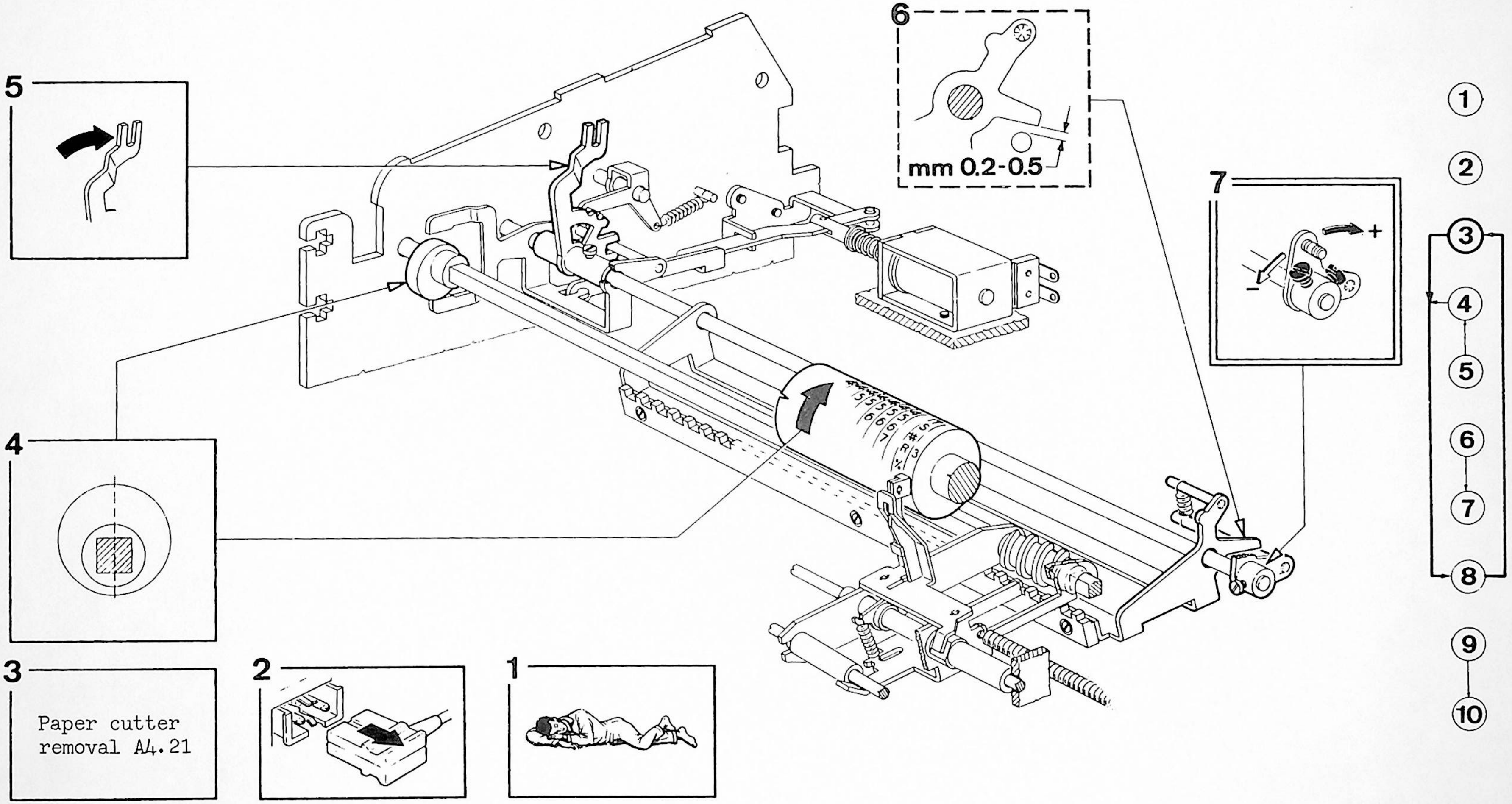





A

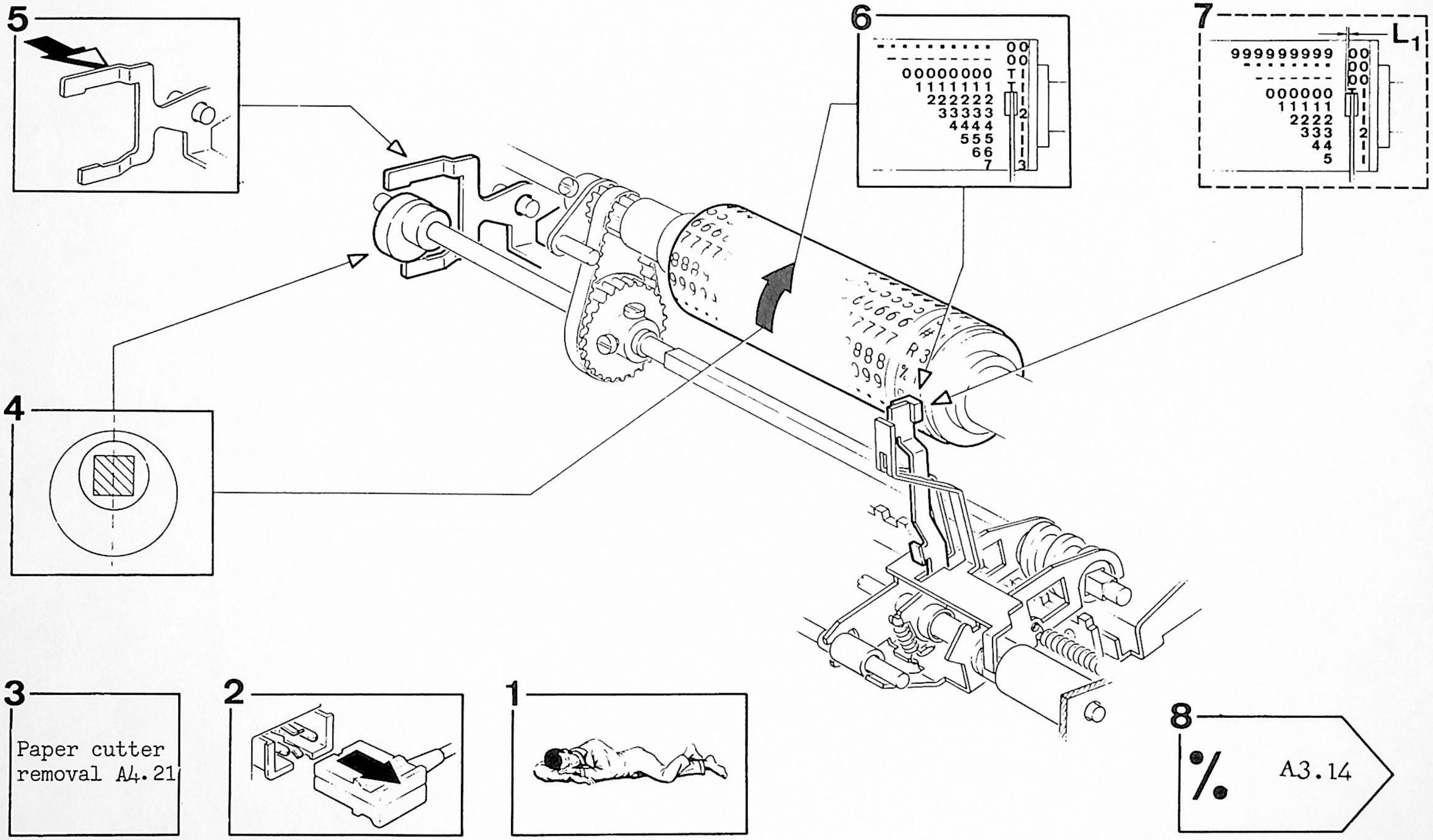
③ ADJUSTING THE ENGAGEMENT OF THE CARRIAGE MOVEMENT RACK

At the beginning of every printing phase, the condition shown on page A3.11 (frame 4) must be achieved.



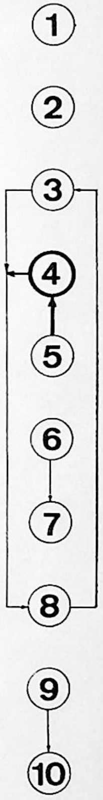
④ ADJUSTING THE TIMING BETWEEN THE CHARACTER DRUM AND THE CARRIAGE MOVEMENT RACK

During a complete revolution of the character drum, the fire hammer must be able to strike any one of the characters of a column.

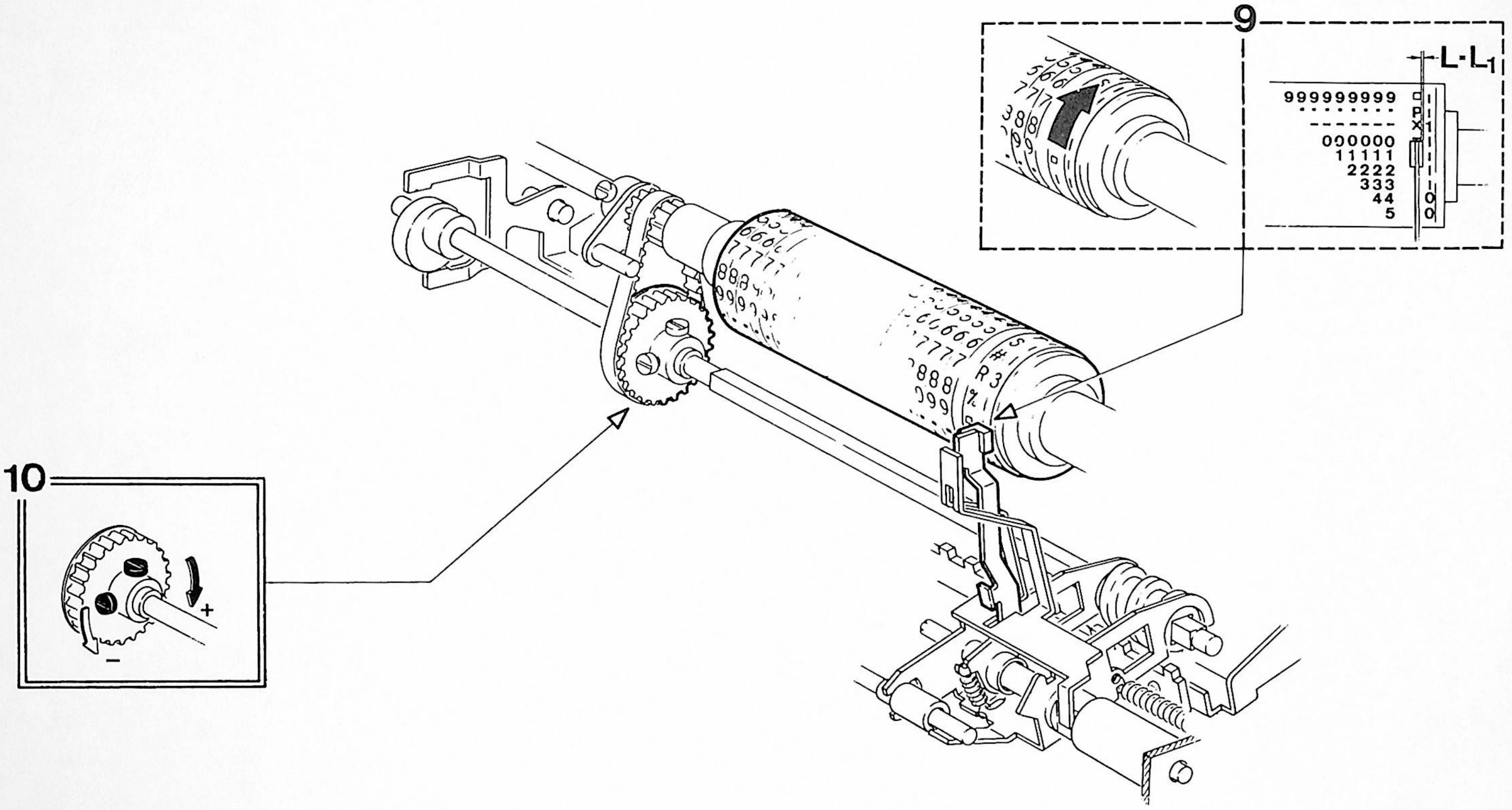


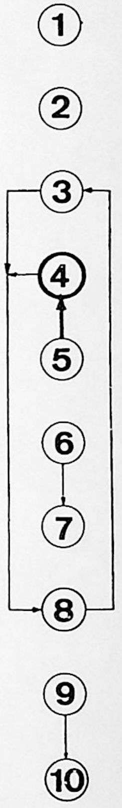
Paper cutter removal A4.21

% A3.14



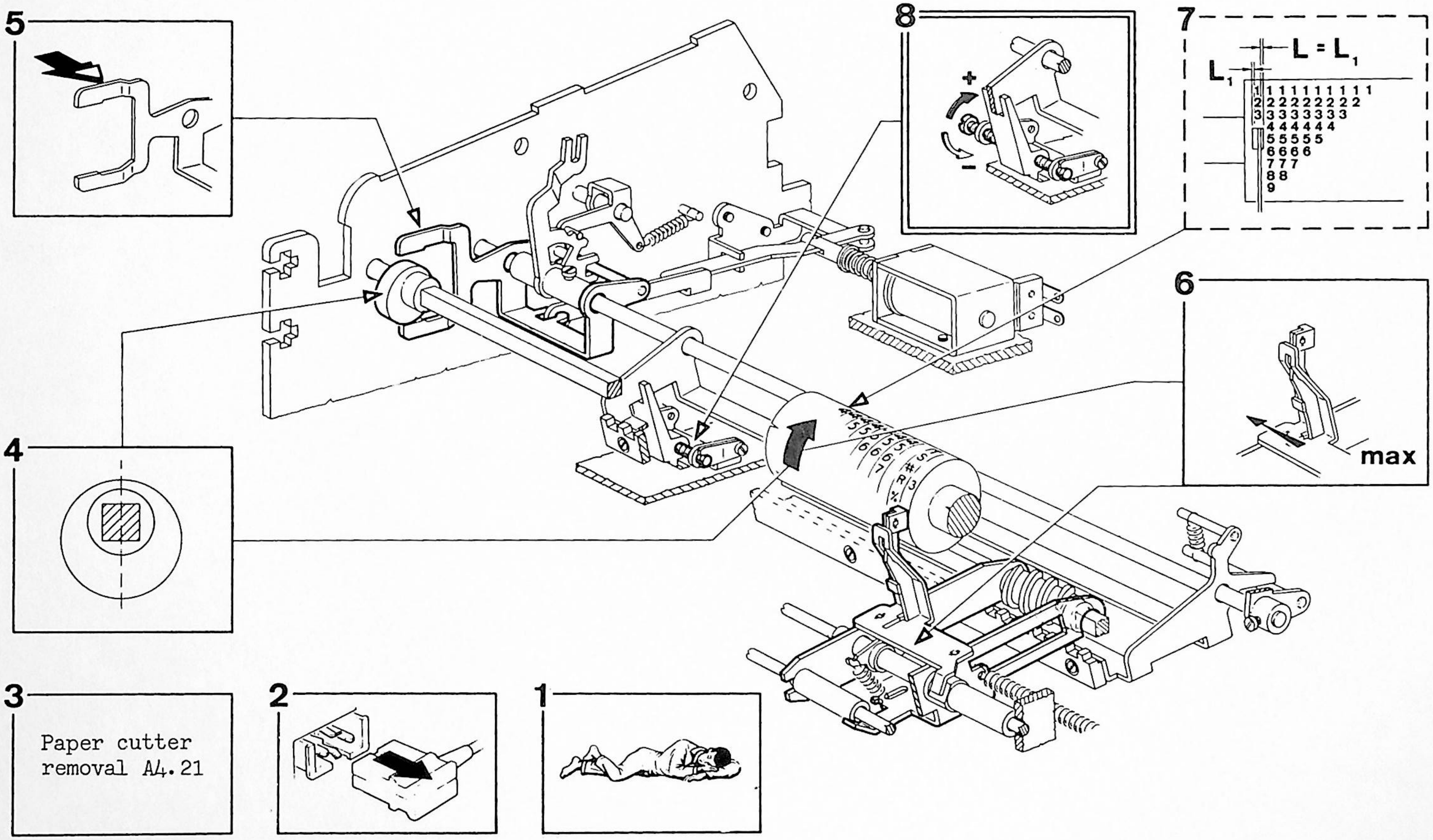
Adjusting the timing between the character drum and the carriage movement rack (continuation)

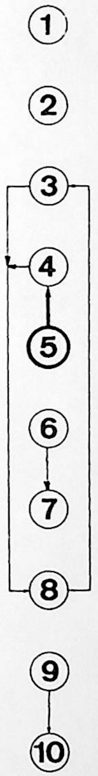




⑤ ADJUSTING THE MAXIMUM TRAVEL OF THE CARRIAGE

With the carriage at its maximum travel, the fire hammer must be able to strike any one of the characters of the last column.

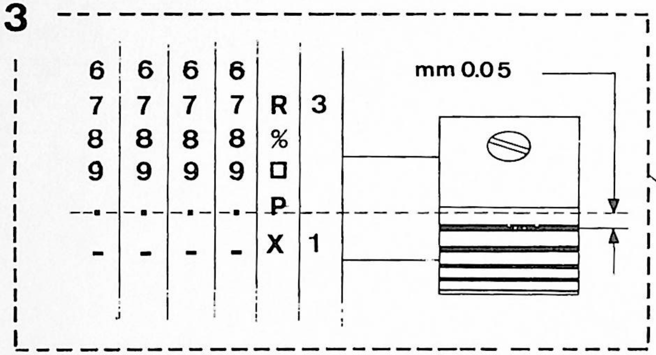




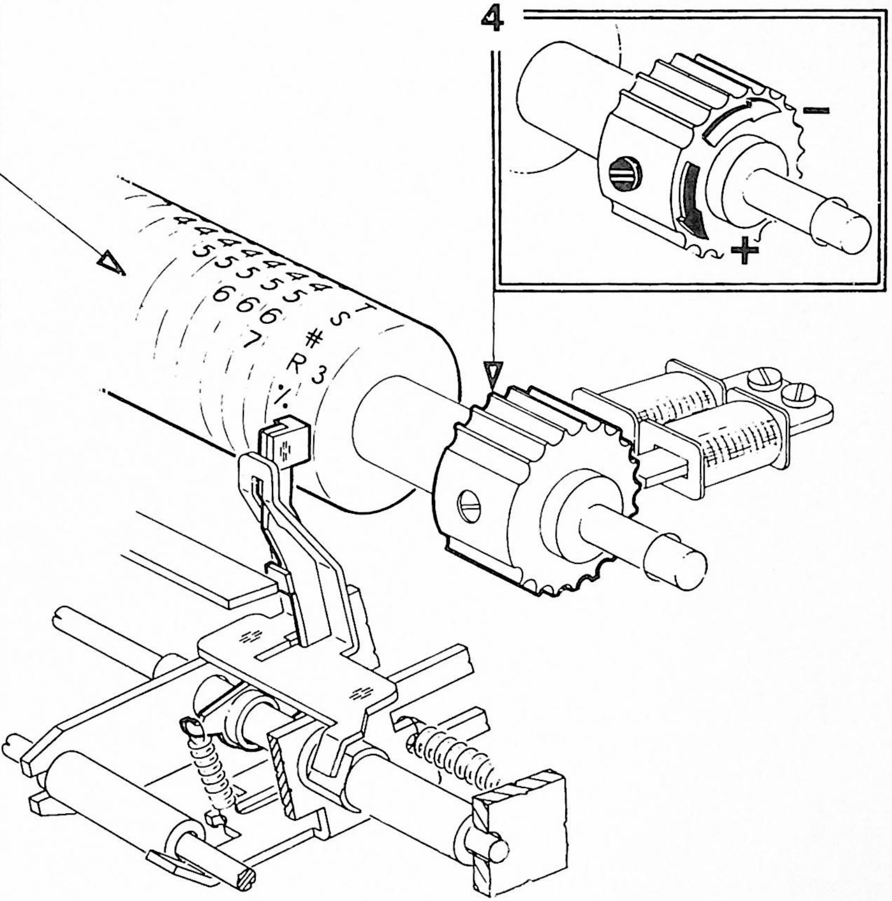
⑥ ADJUSTING THE TIMING BETWEEN THE STROBE WHEEL AND THE CHARACTER DRUM

The strobe must be properly timed with respect to the character lines of the character drum.

3



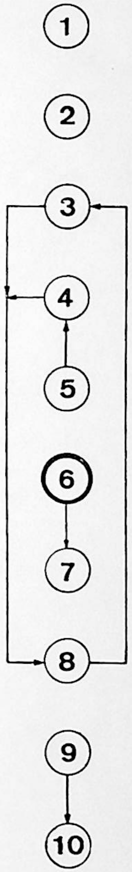
4



2

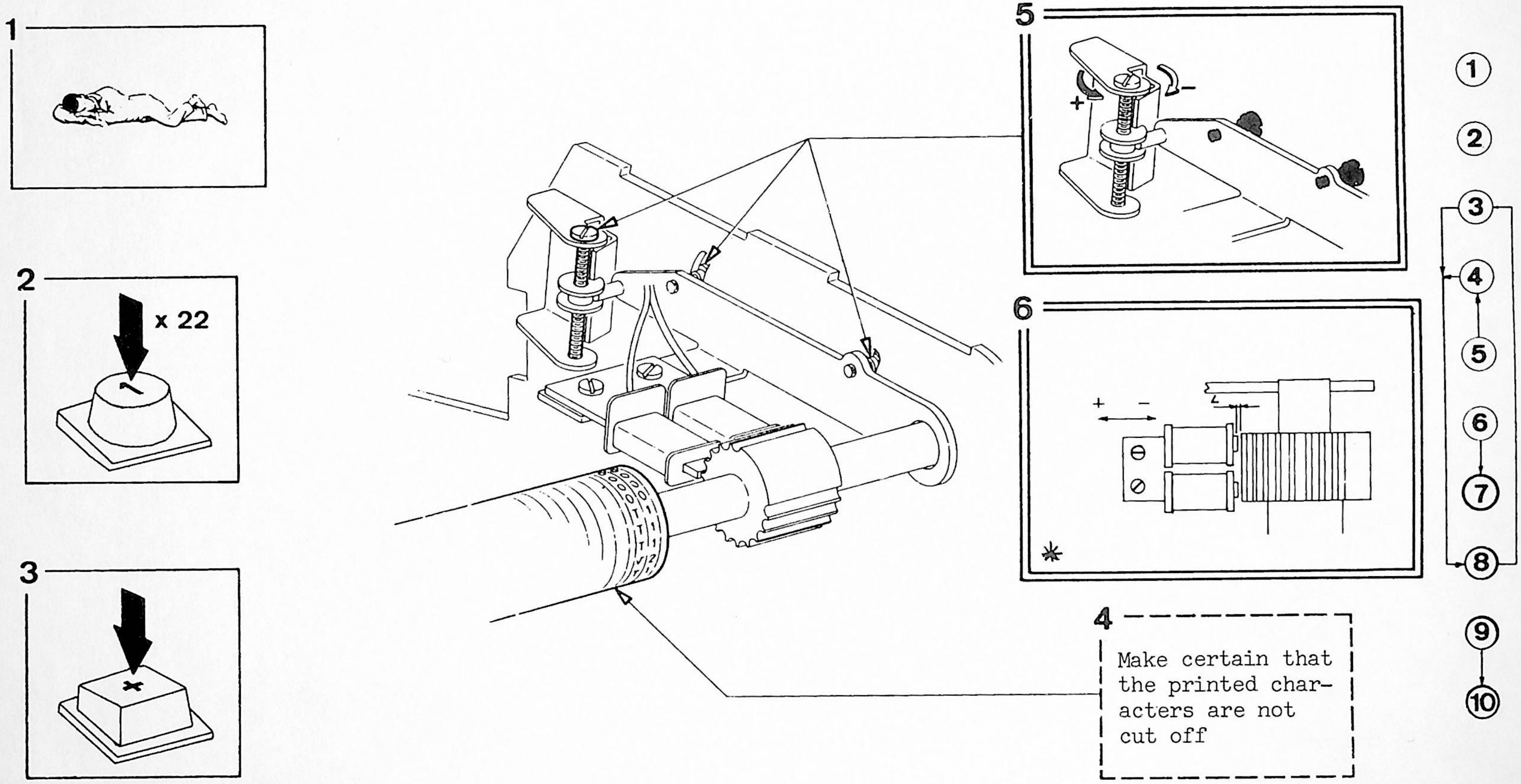
Paper cutter
removal A4.21

1



⑦ ADJUSTING THE POSITION OF THE PICK-UP COIL

Check that light L between pick-up coil and strobe wheel is perceptible.

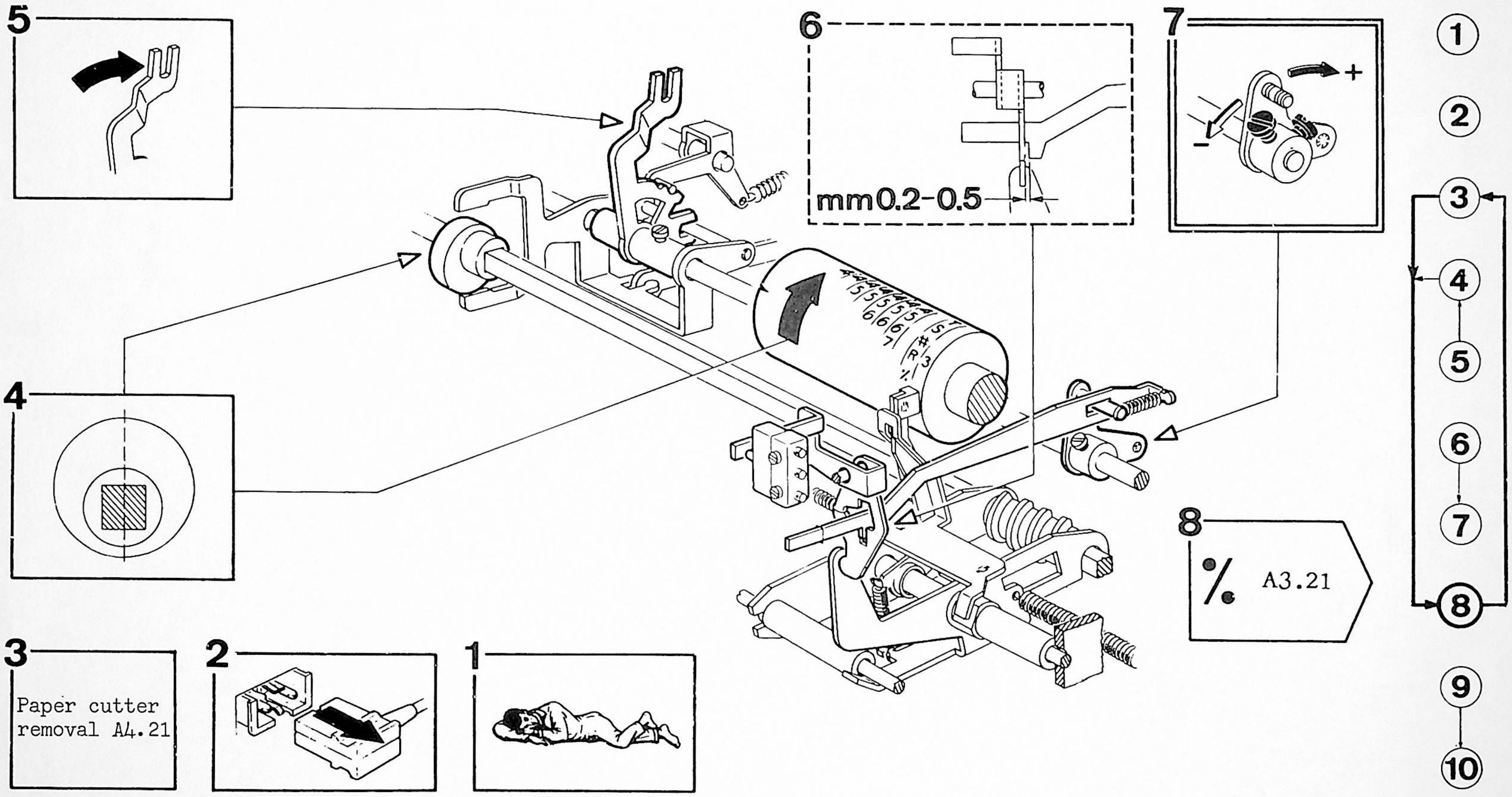


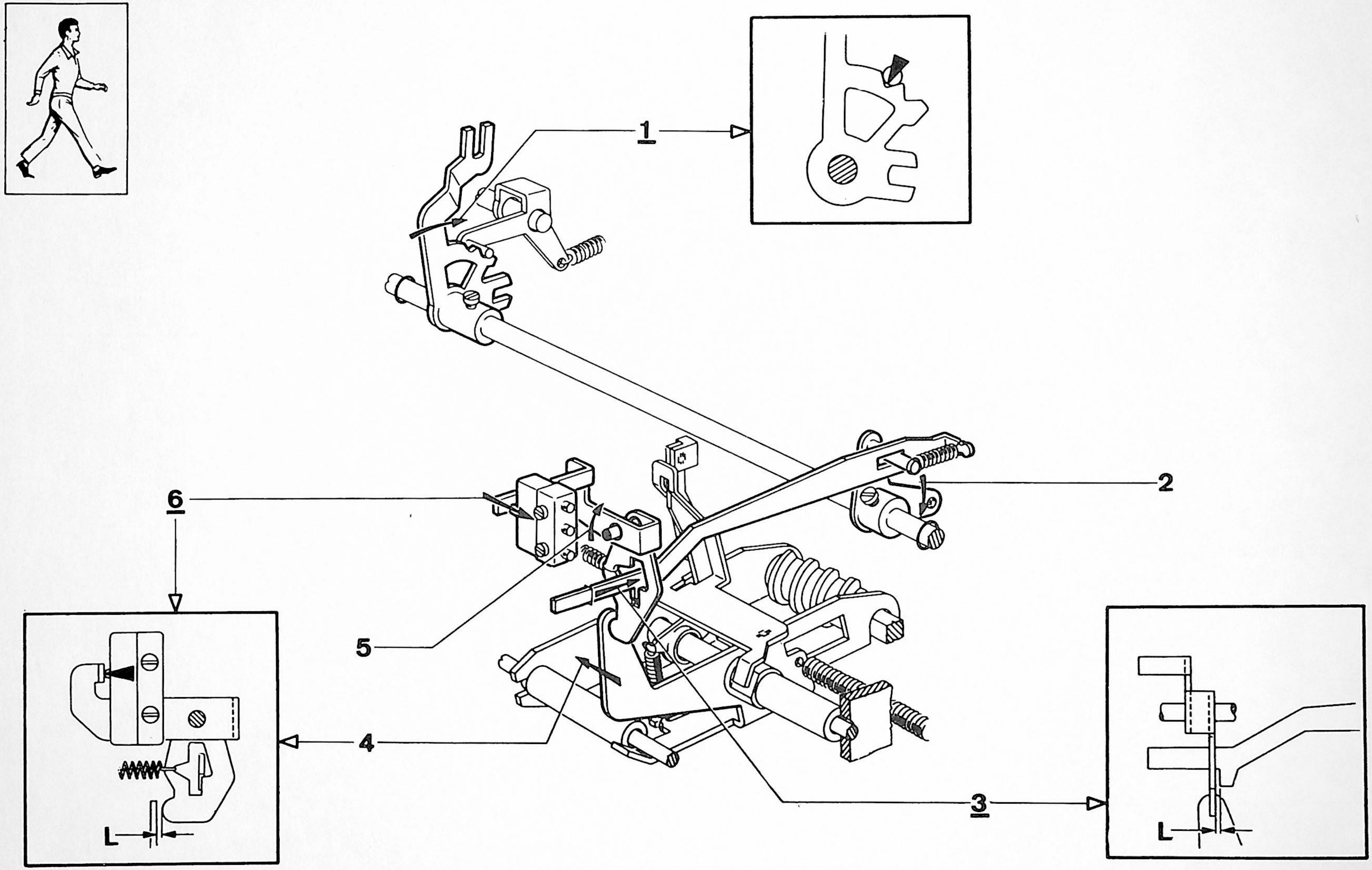
Make certain that the printed characters are not cut off

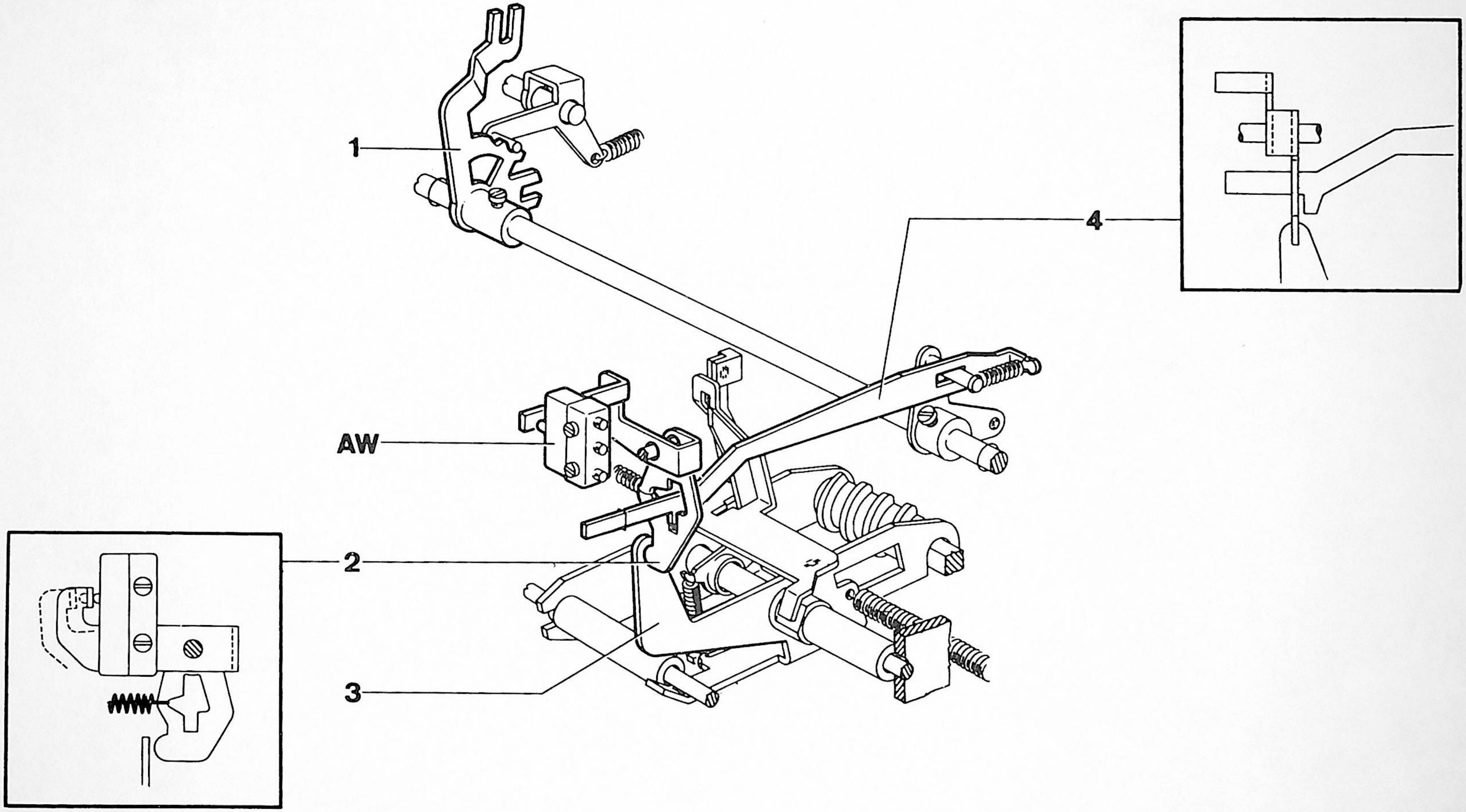
*Visually check that there is a minimum of clearance between pick-up coil and strobe wheel.
NOTE: Move in the direction (+) if the characters are missing on the bottom.
Move in the direction (-) if the characters are missing on top.

⑧ ADJUSTING THE AW MICROSWITCH

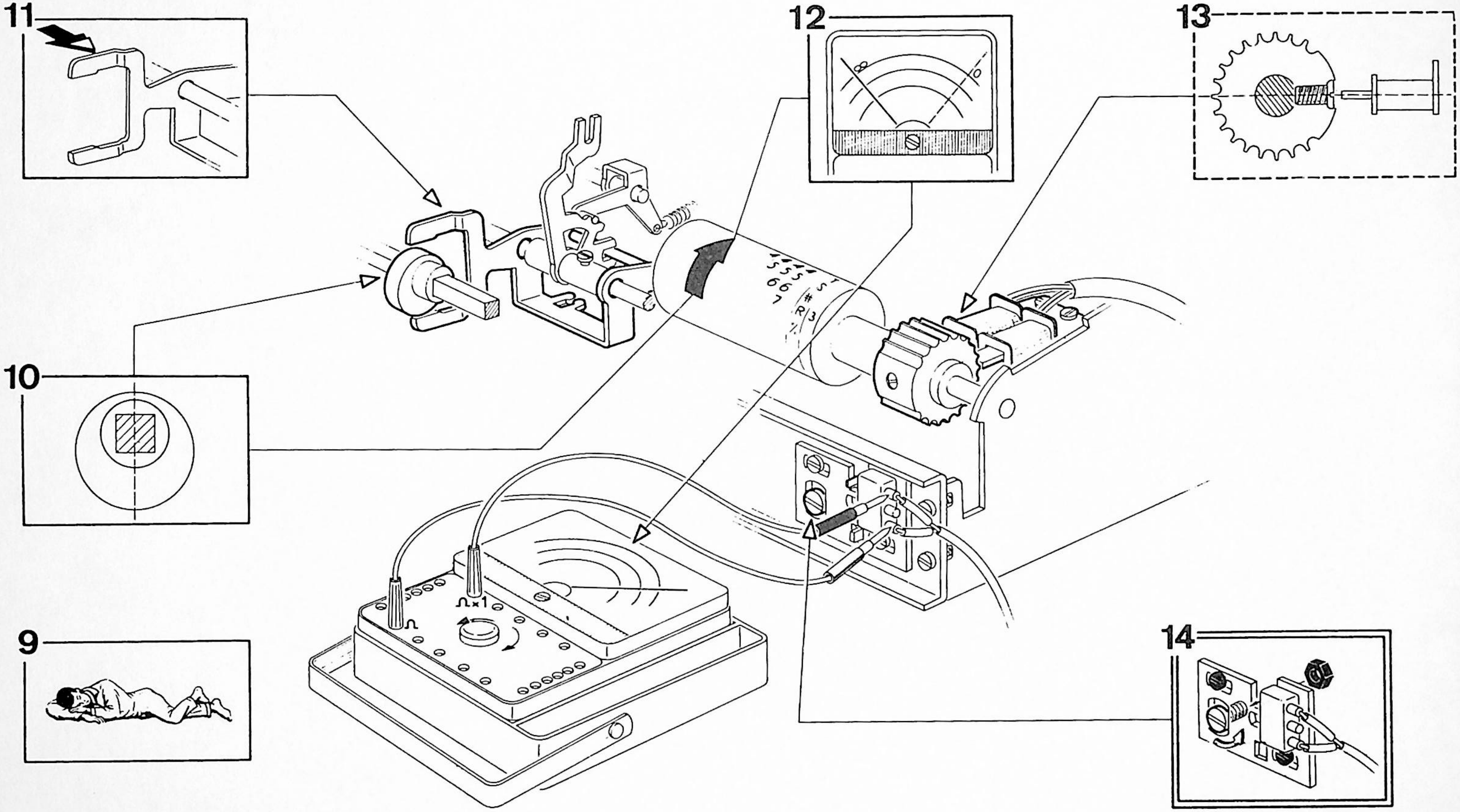
At the beginning of each printing phase, the clearance shown on page A3.19 (frame 3) must be checked.
At the departure of the carriage, the conditions illustrated on page A3.20 (frame 2) must be achieved.

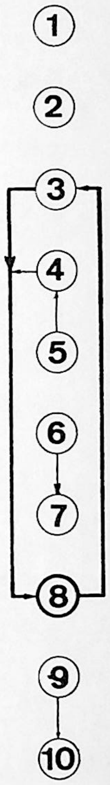



L
L


AW

Adjusting the AW microswitch (continuation)

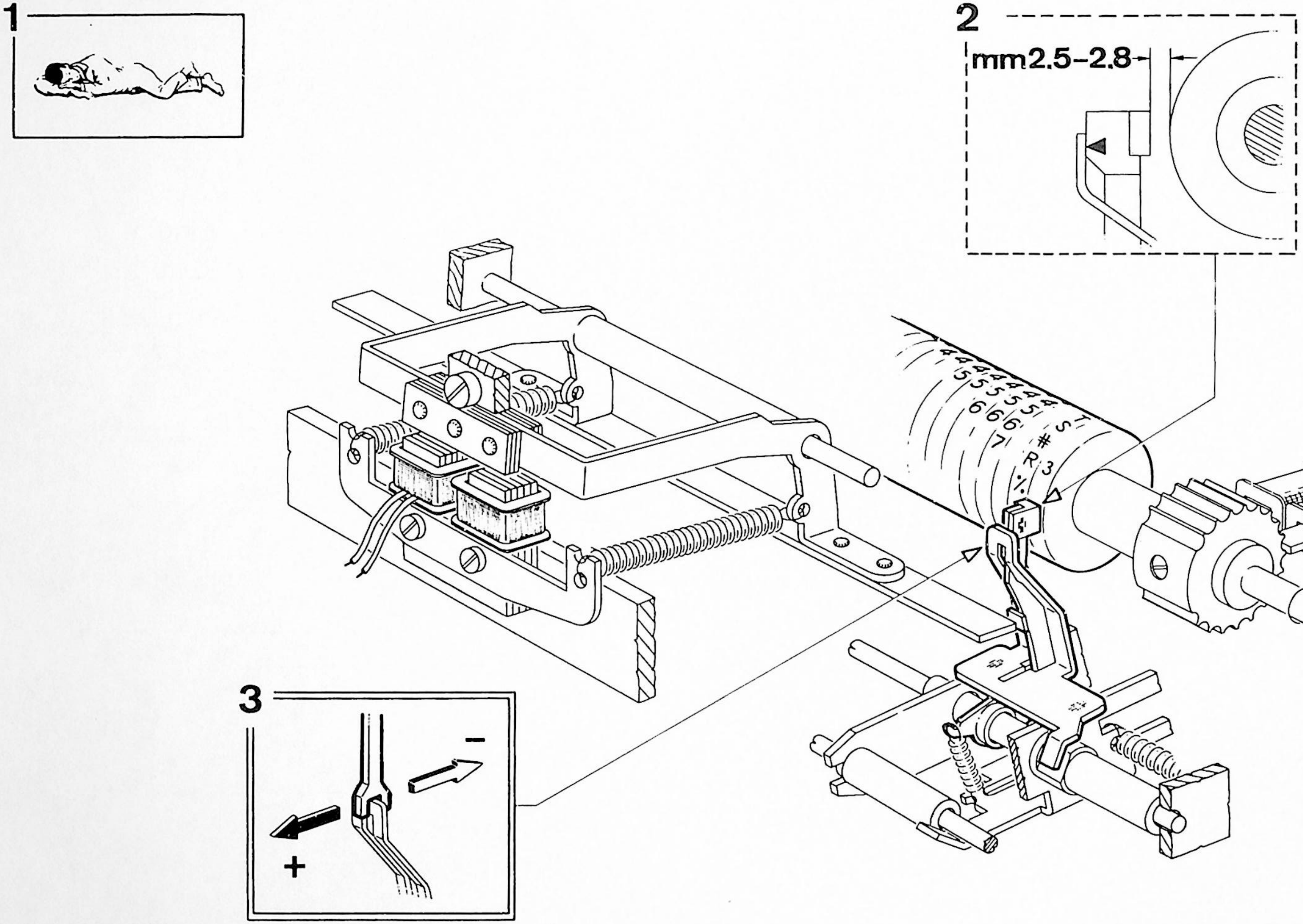


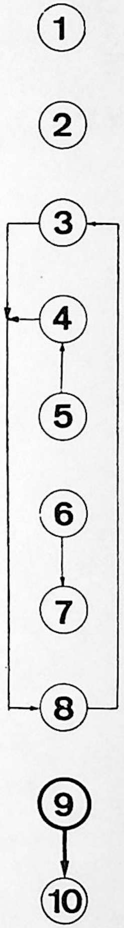


NOTE: Prior to taking a meter reading, it is advisable to scratch a notch in each AW microswitch contact so that probes will not slip off contacts.

⑨ ADJUST THE REST POSITION OF THE FIRE HAMMER

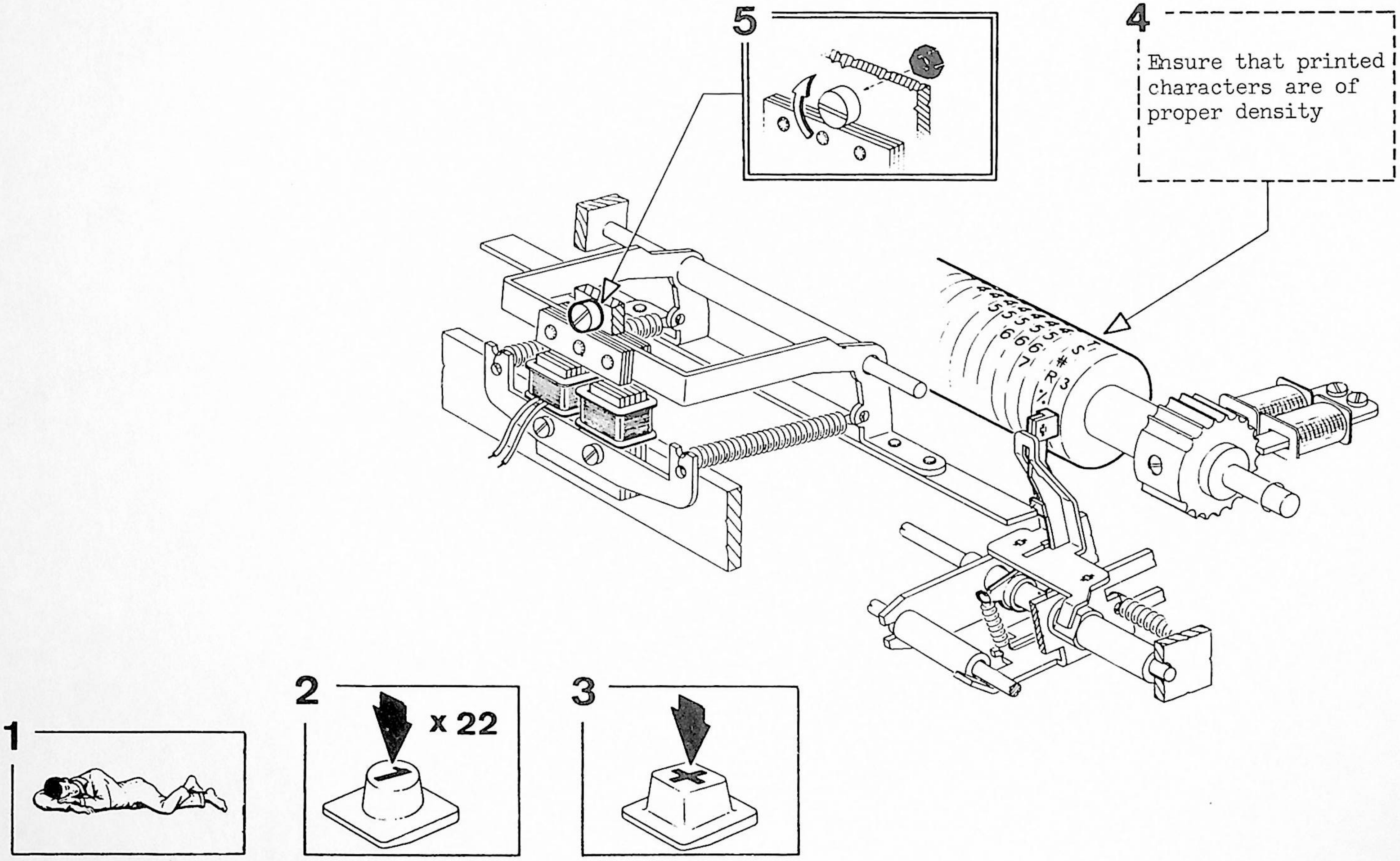
At rest, the hammer must be away from the character drum.

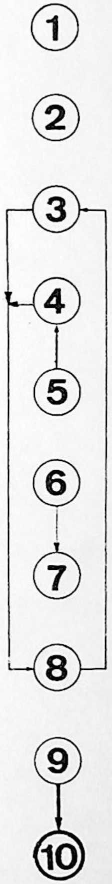




⑩ ADJUSTING THE STRIKING POWER OF THE FIRE HAMMER

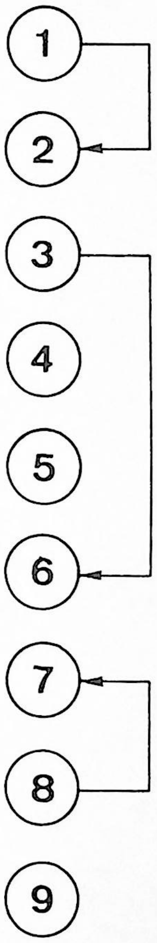
The printed characters must be clear.





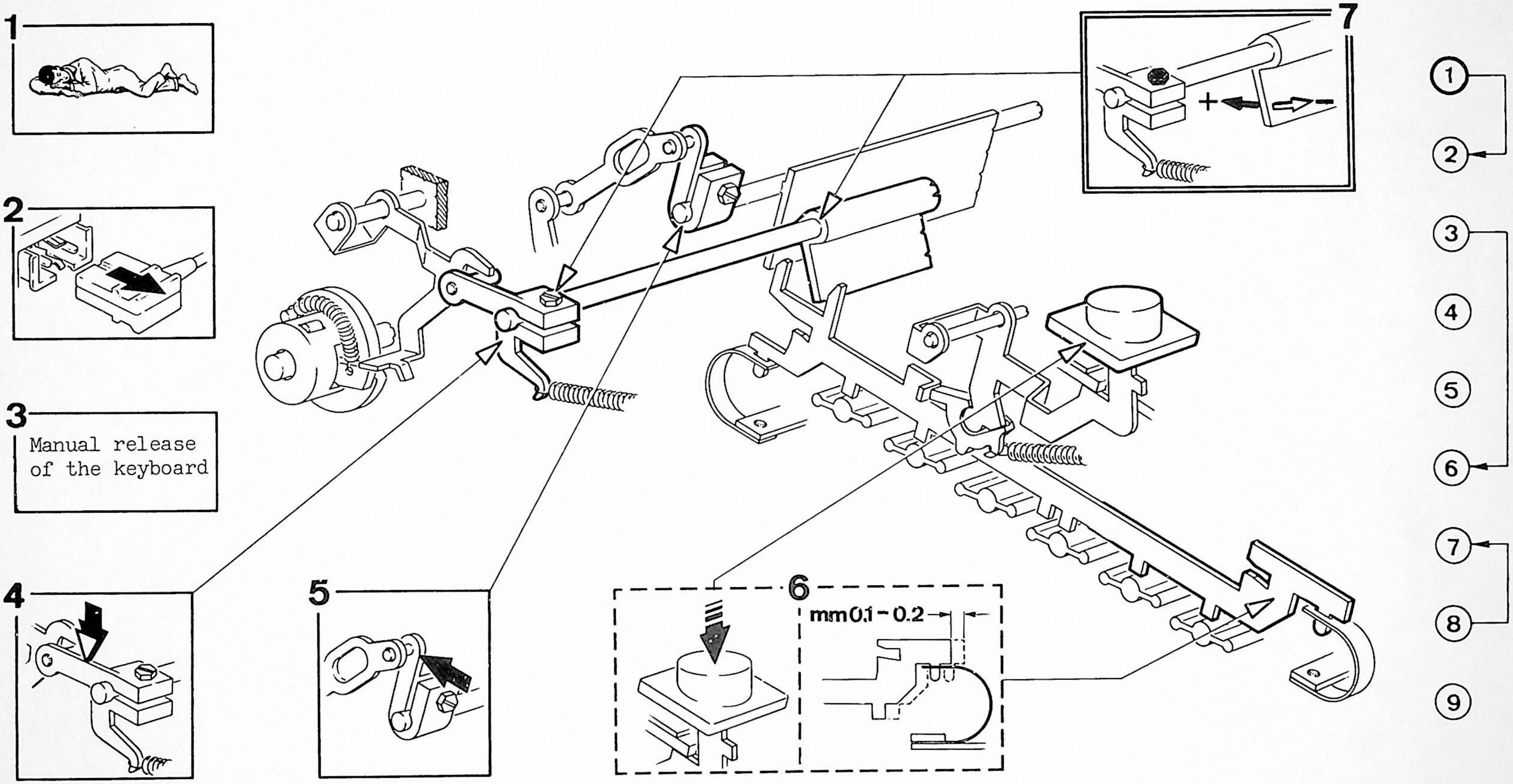
NOTE: It is advisable to repeat the adjustment with other numeral keys before acting.

KEYBOARD UNIT ADJUSTMENTS

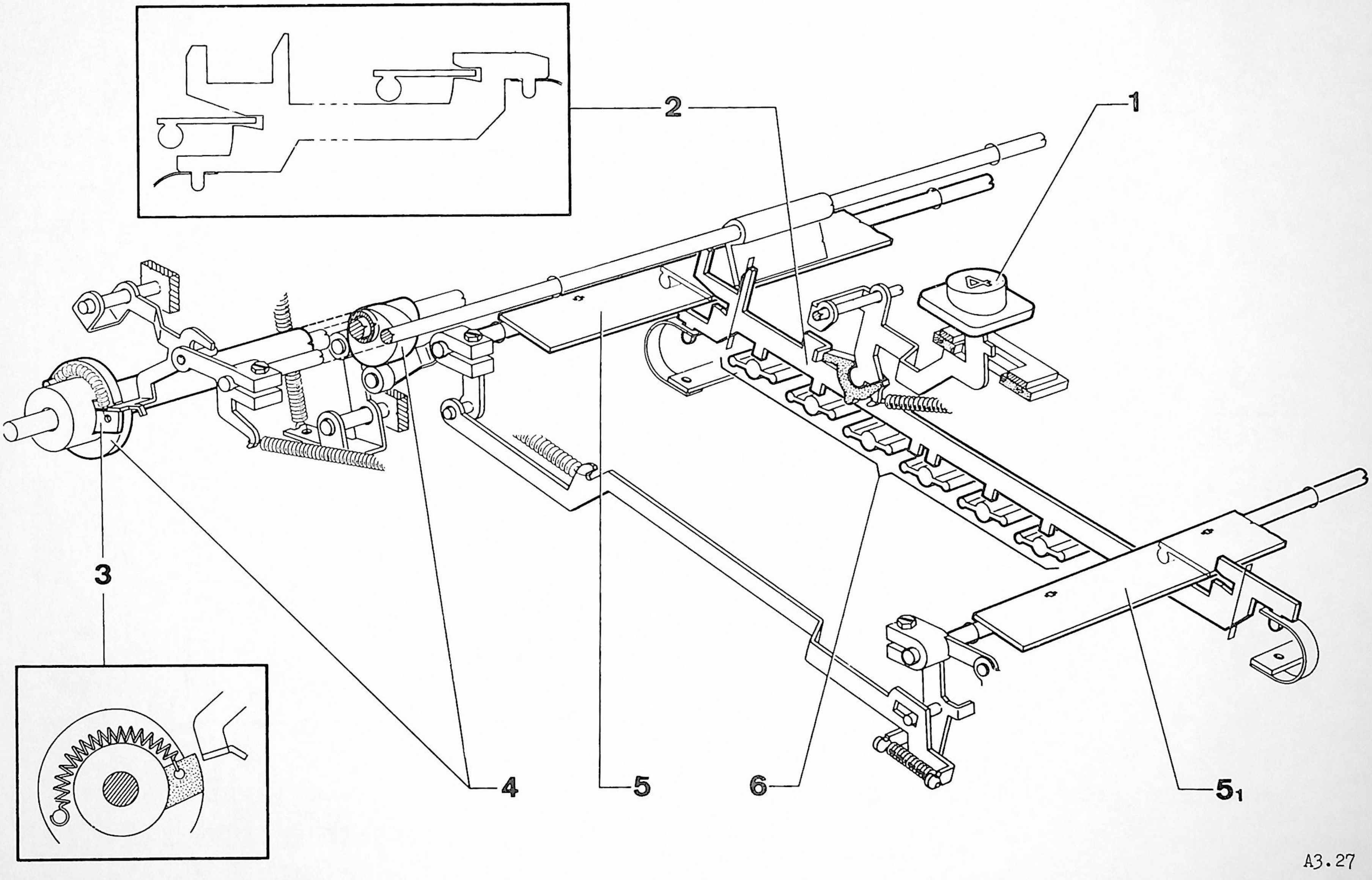


① ADJUSTING THE ENTRY CLUTCH ENGAGEMENT

After depresssing each keyboard key, releasing of the clutch flange must be adjusted so as to meet the conditions illustrated on page A3.27 (frame 3)



NOTE: It is advisable to perform the adjustment only after having checked it with the depression of keys located at the extremes and in the center of the keyboard.

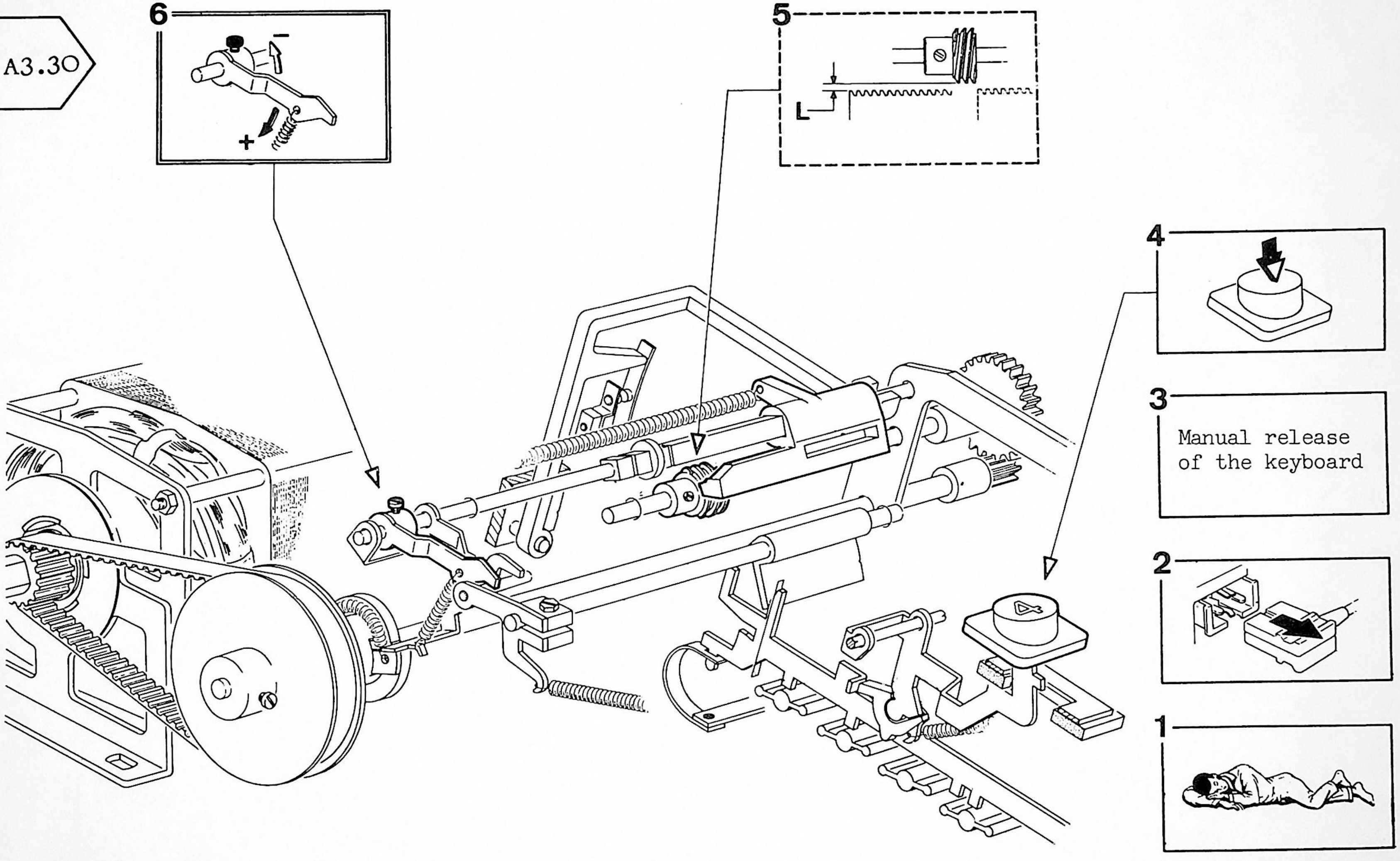

5_1

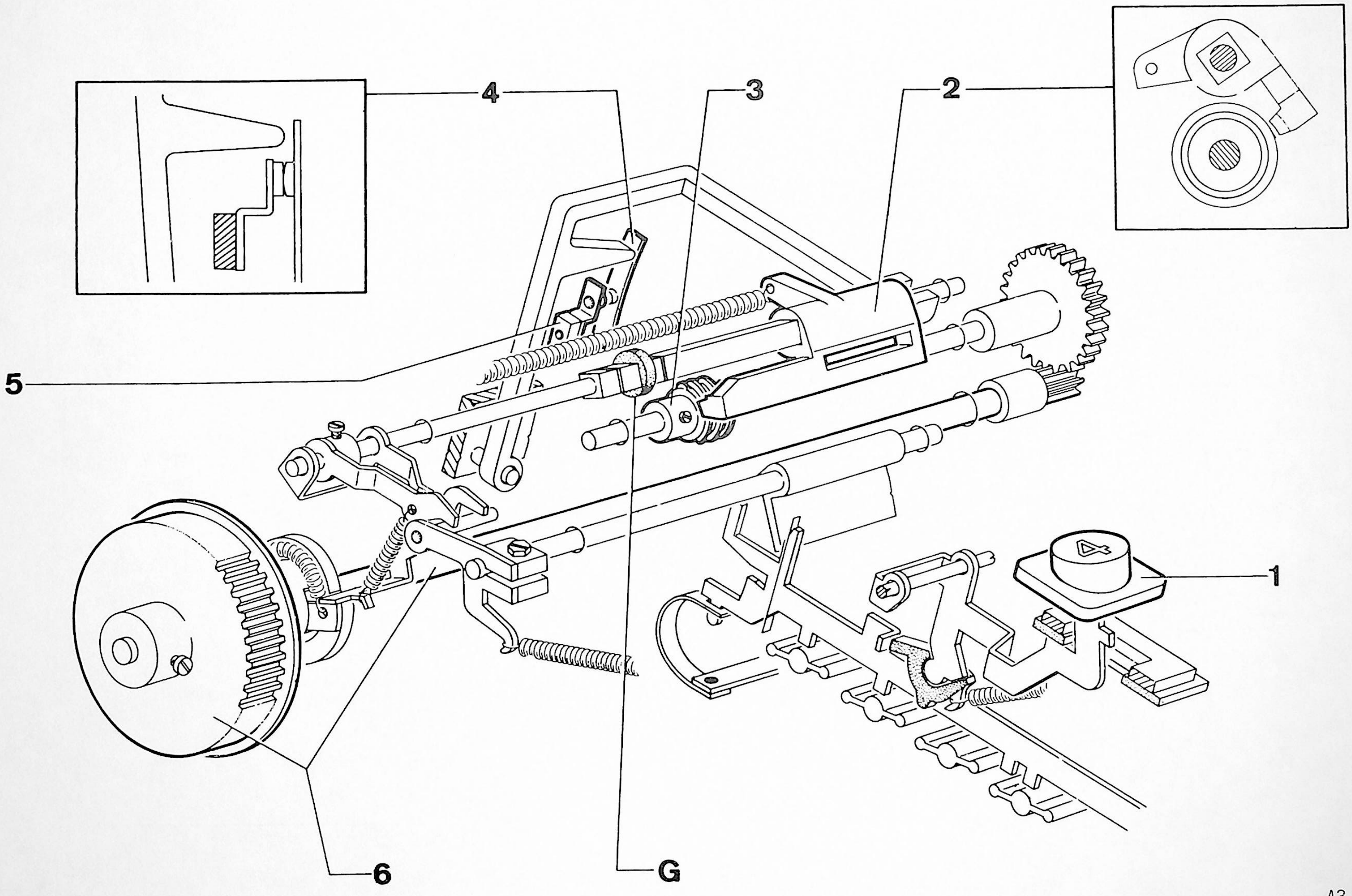
② ADJUSTING THE TIME SWITCH

After depressing every keyboard key, the condition illustrated on page A3.29 (frame 2) must be achieved.

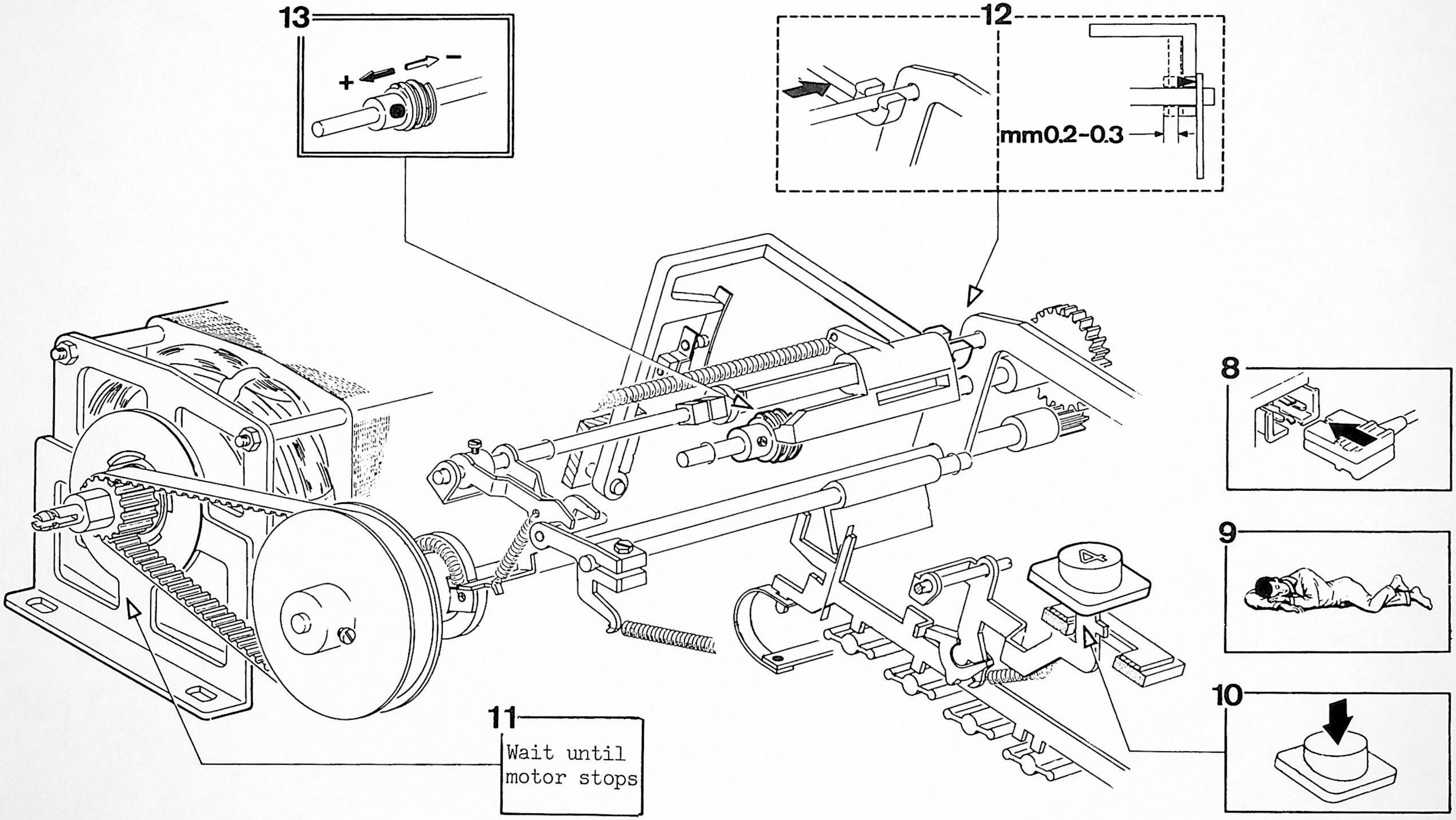
7 % A3.30

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨




G

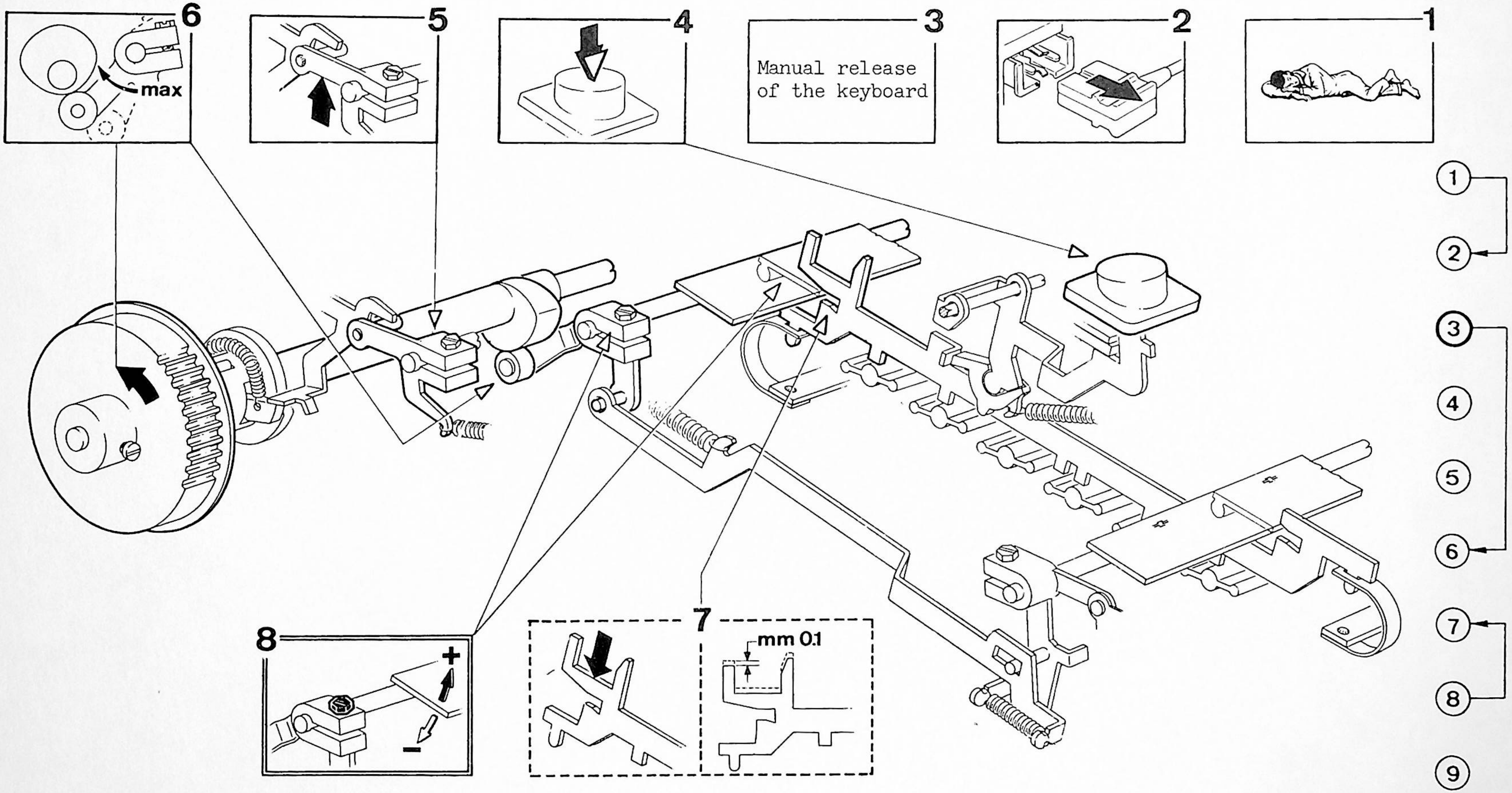
Adjusting the time switch (continuation)



Wait until motor stops

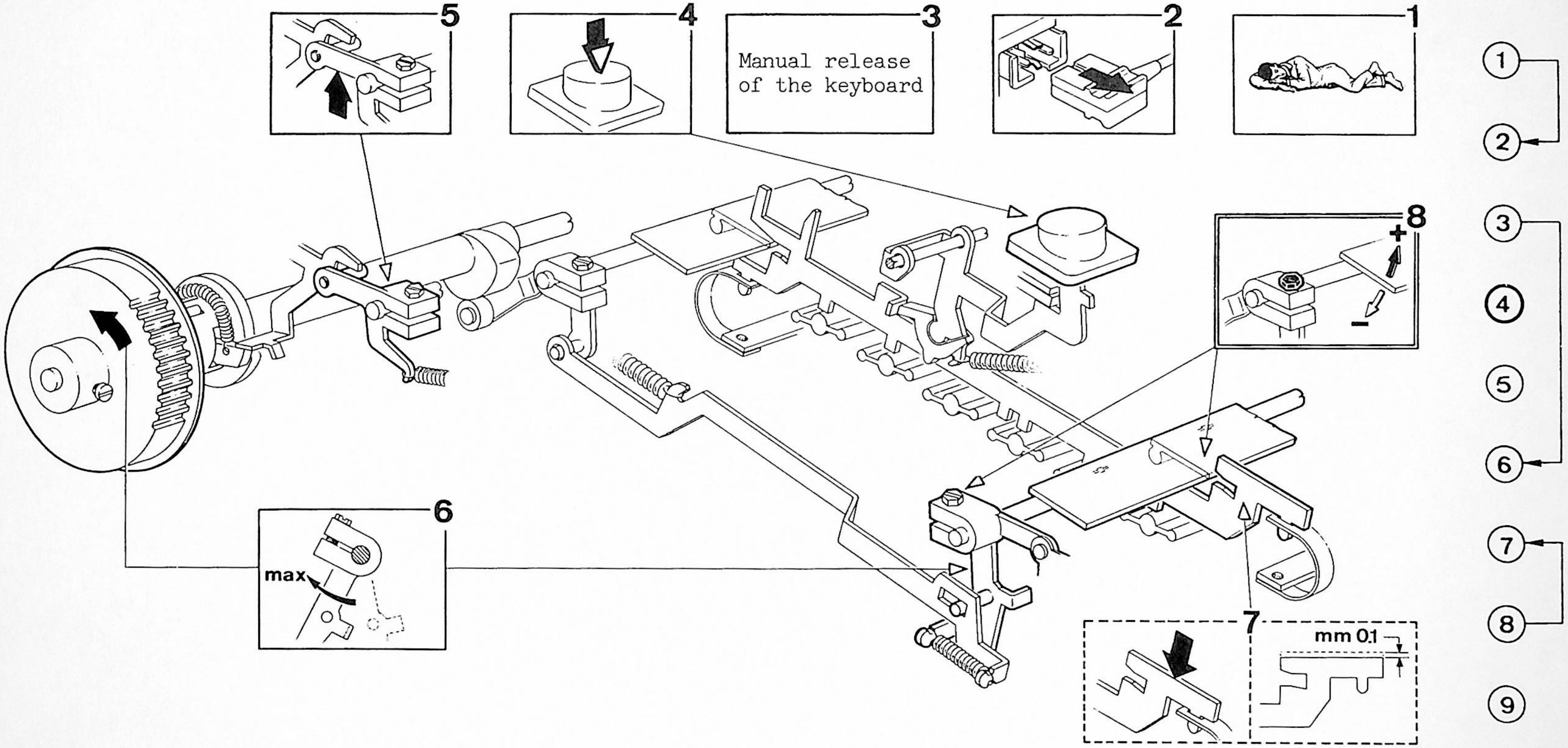
③ ADJUSTING THE ANGULAR POSITION OF THE REAR SETTING BAIL

The rear setting bail must move the rear portion of the coding bar slide to the maximum downward position.



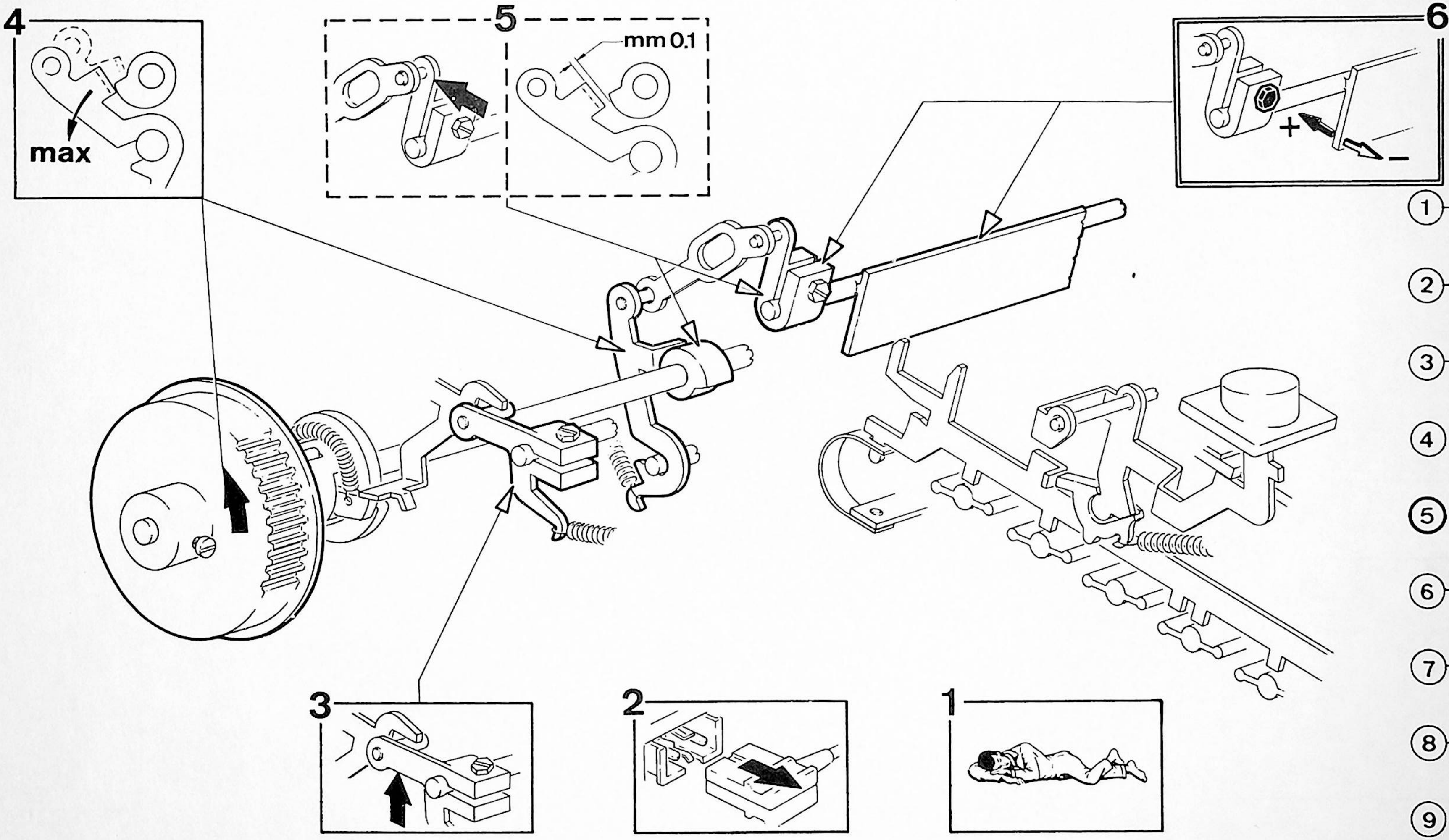
④ ADJUSTING THE ANGULAR POSITION OF THE FRONT SETTING BAIL

The front setting bail must move the front portion of the coding bar slide to the maximum downward position.



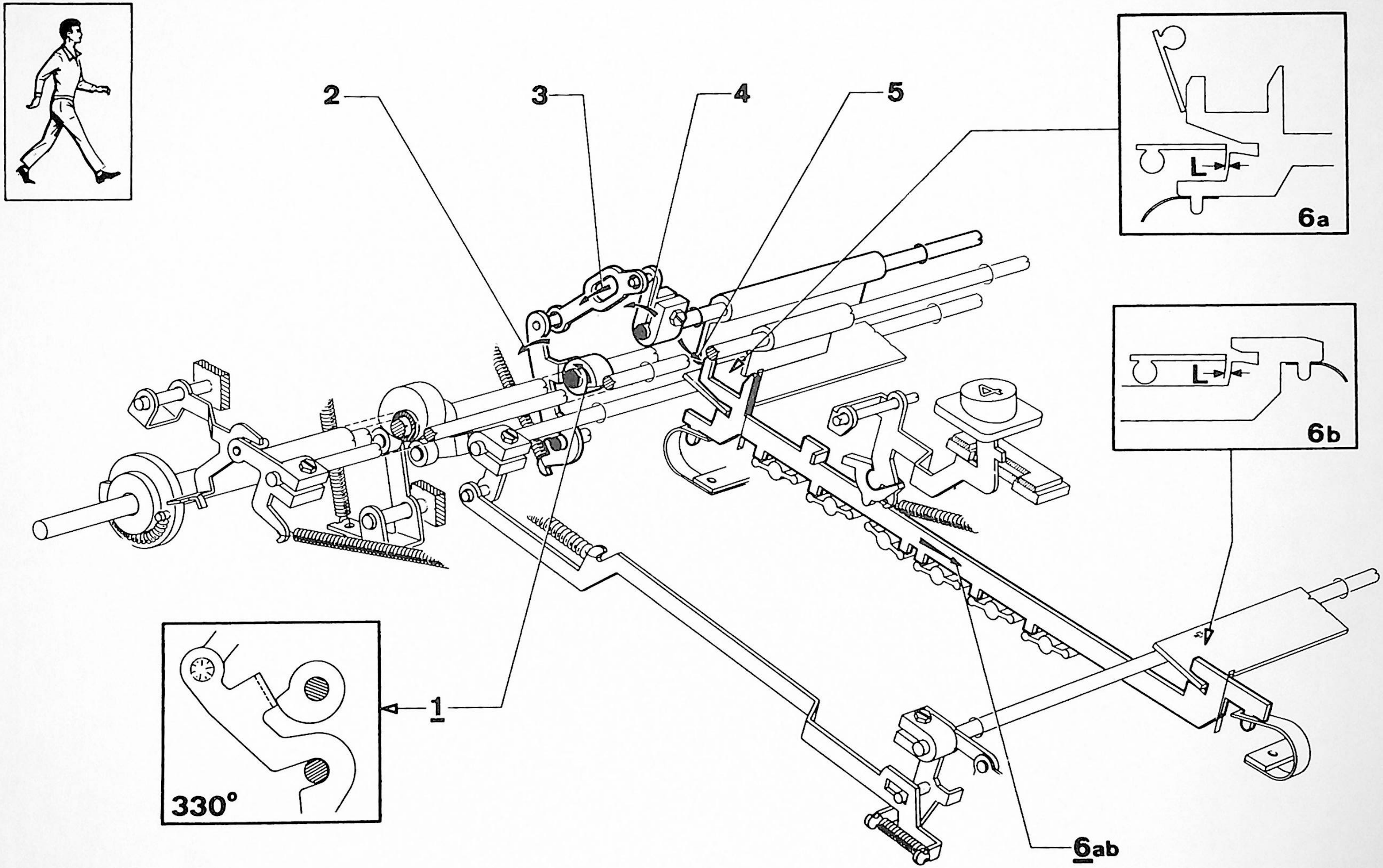
⑤ ADJUSTING THE AMOUNT OF TRAVEL OF THE RESTORING BAIL

During every entry cycle, the restoring condition illustrated on page A3.34 (frames 6a - 6b) must be achieved.



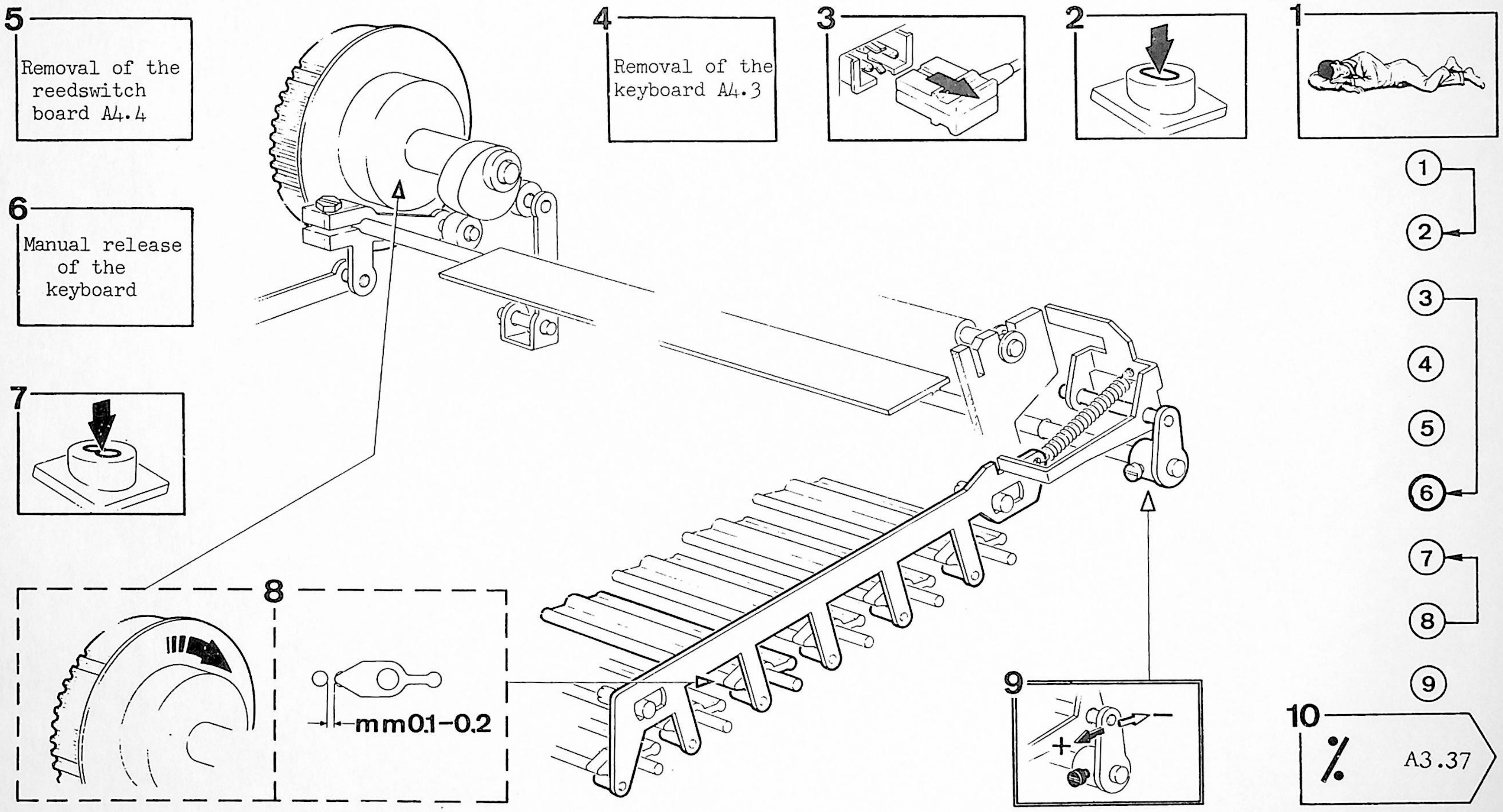
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

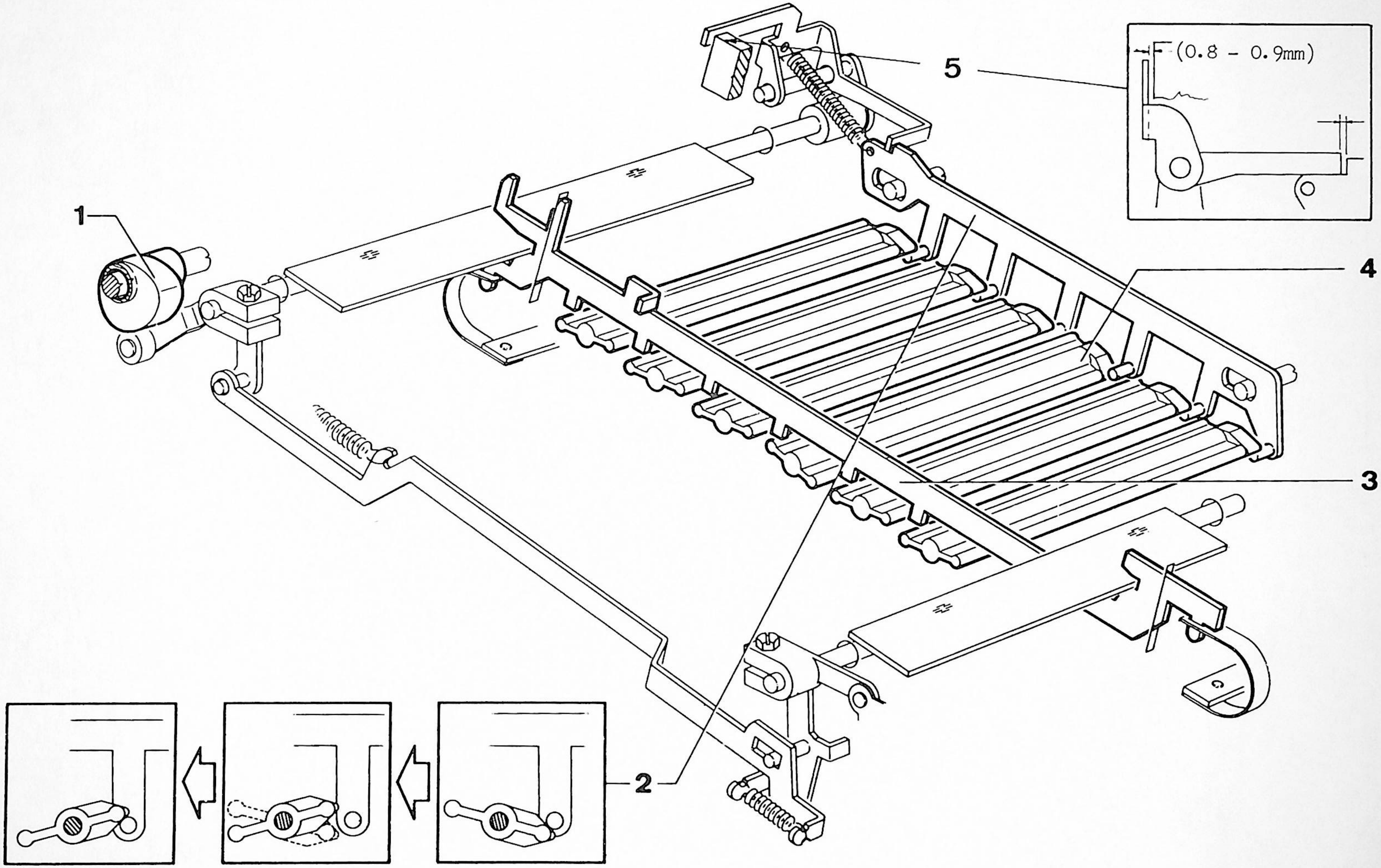
Disengagement of the coding bar slide from the setting bails



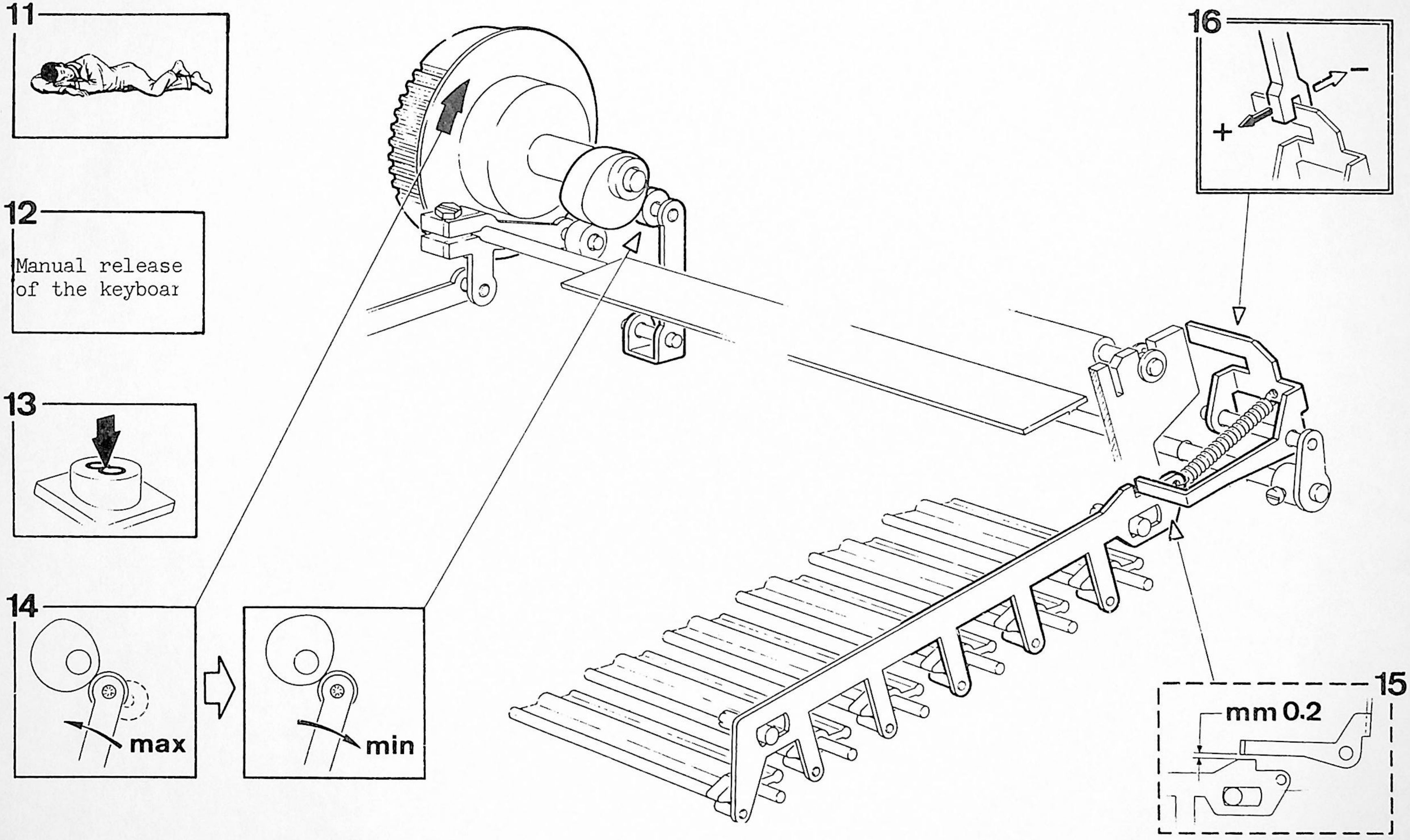
⑥ ADJUSTING THE CODING BAR LOCK MECHANISM

During every entry cycle, the conditions illustrated on page A3.36 (frames 2 and 5 with machine at rest) must be achieved in the order shown.


1
2
3
4
Removal of the keyboard A4.3
5
Removal of the reedswitch board A4.4
6
Manual release of the keyboard
7
8
mm0.1–0.2
9
+
–
10
%
A3.37
①
②
③
④
⑤
⑥
⑦
⑧
⑨

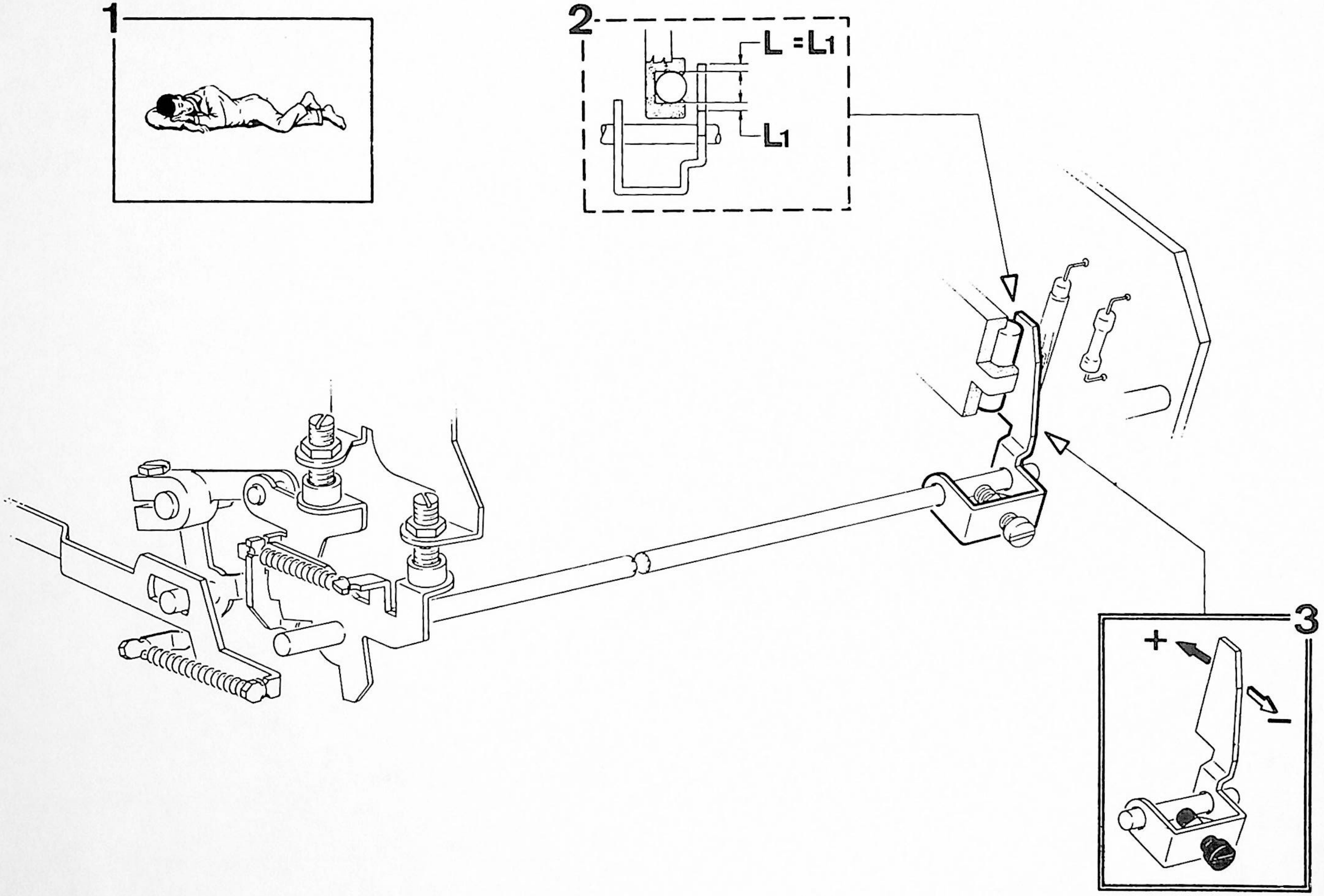

(0.8 - 0.9mm)

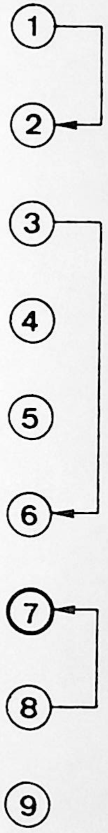
Adjusting the coding bar lock mechanism (continuation)

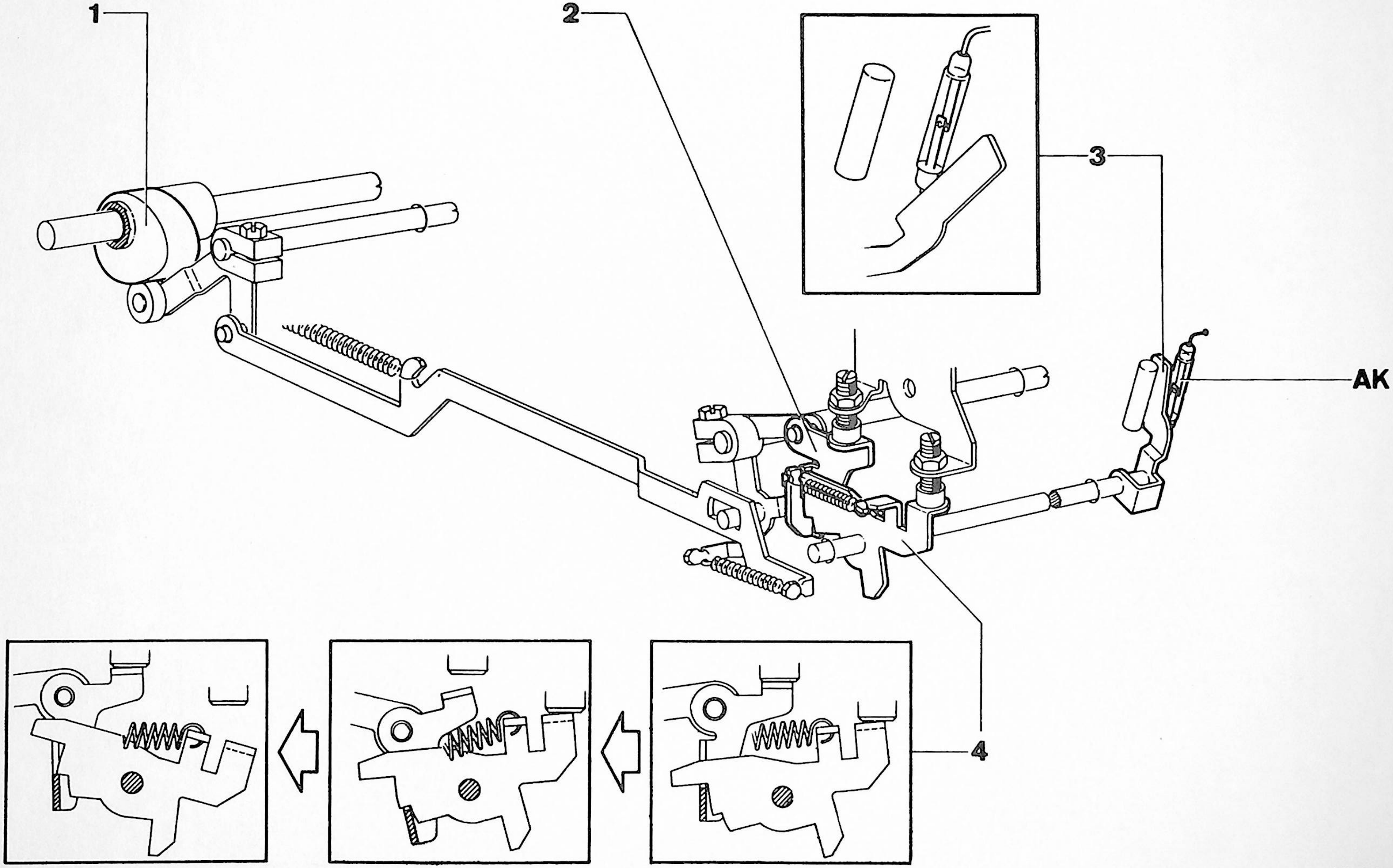


⑦ ADJUSTING THE ANGULAR POSITION OF THE AK REEDSWITCH SCREEN

During every entry cycle, the condition illustrated on page A3.39 (frame 3) must be achieved.



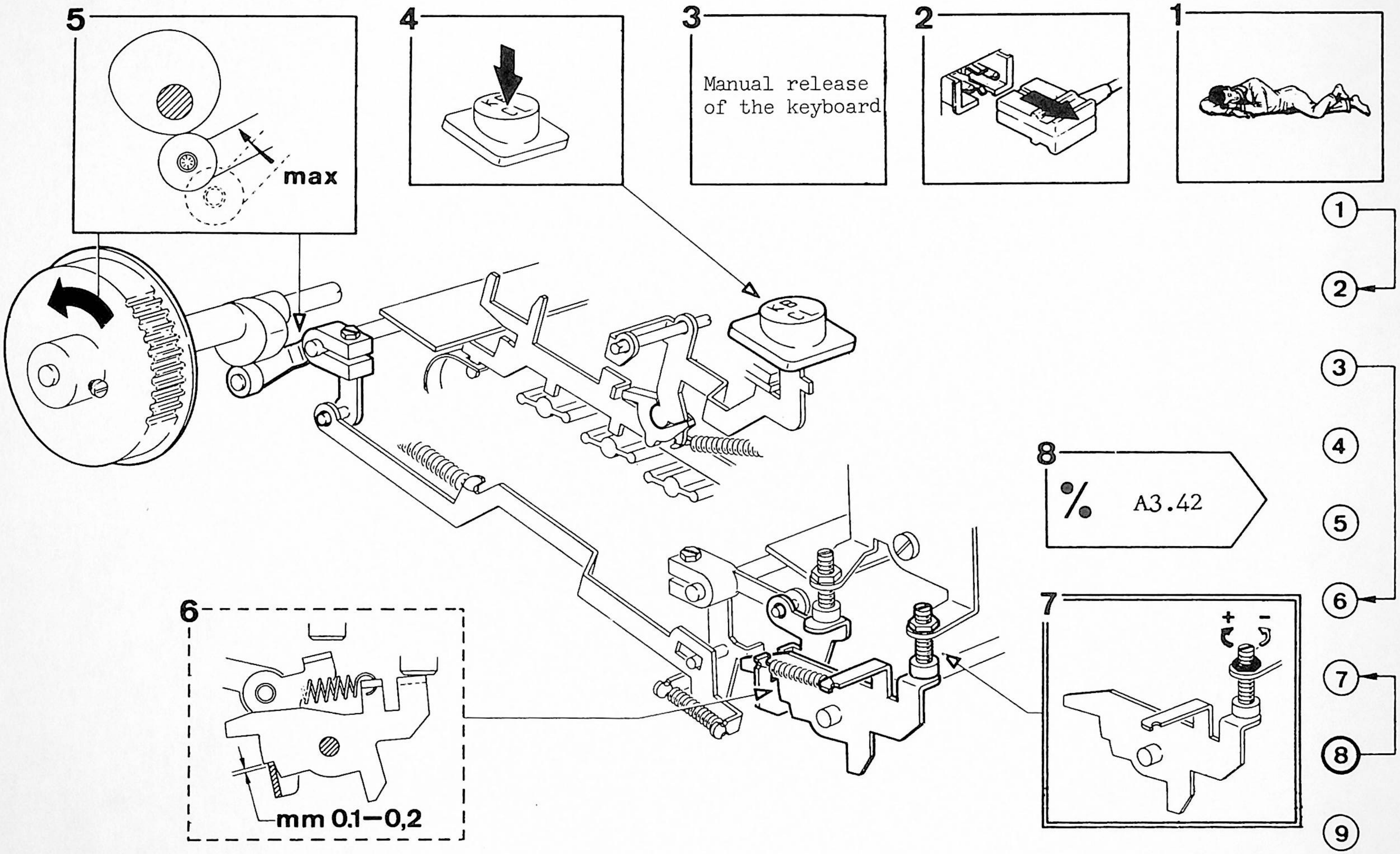


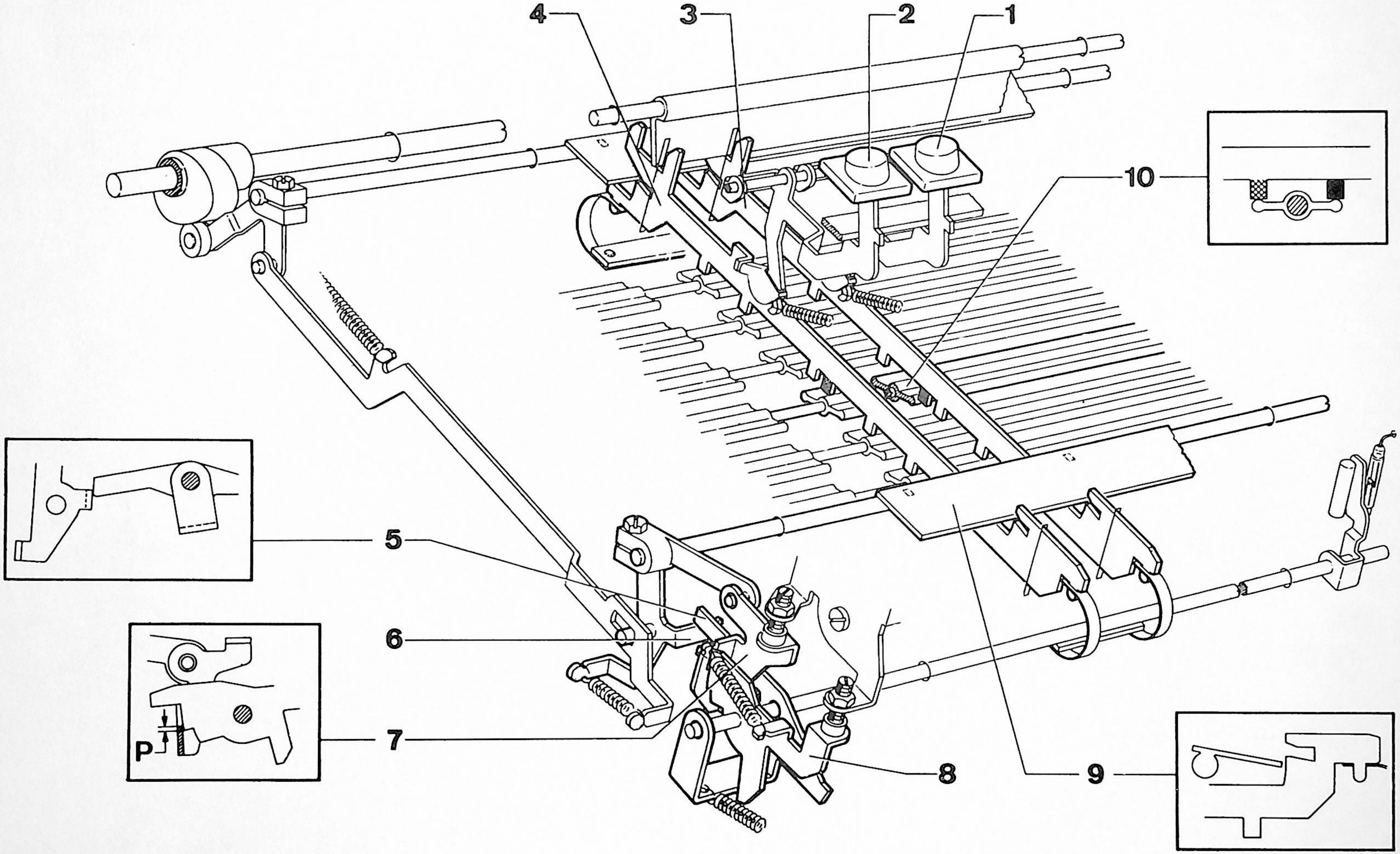

AK

]

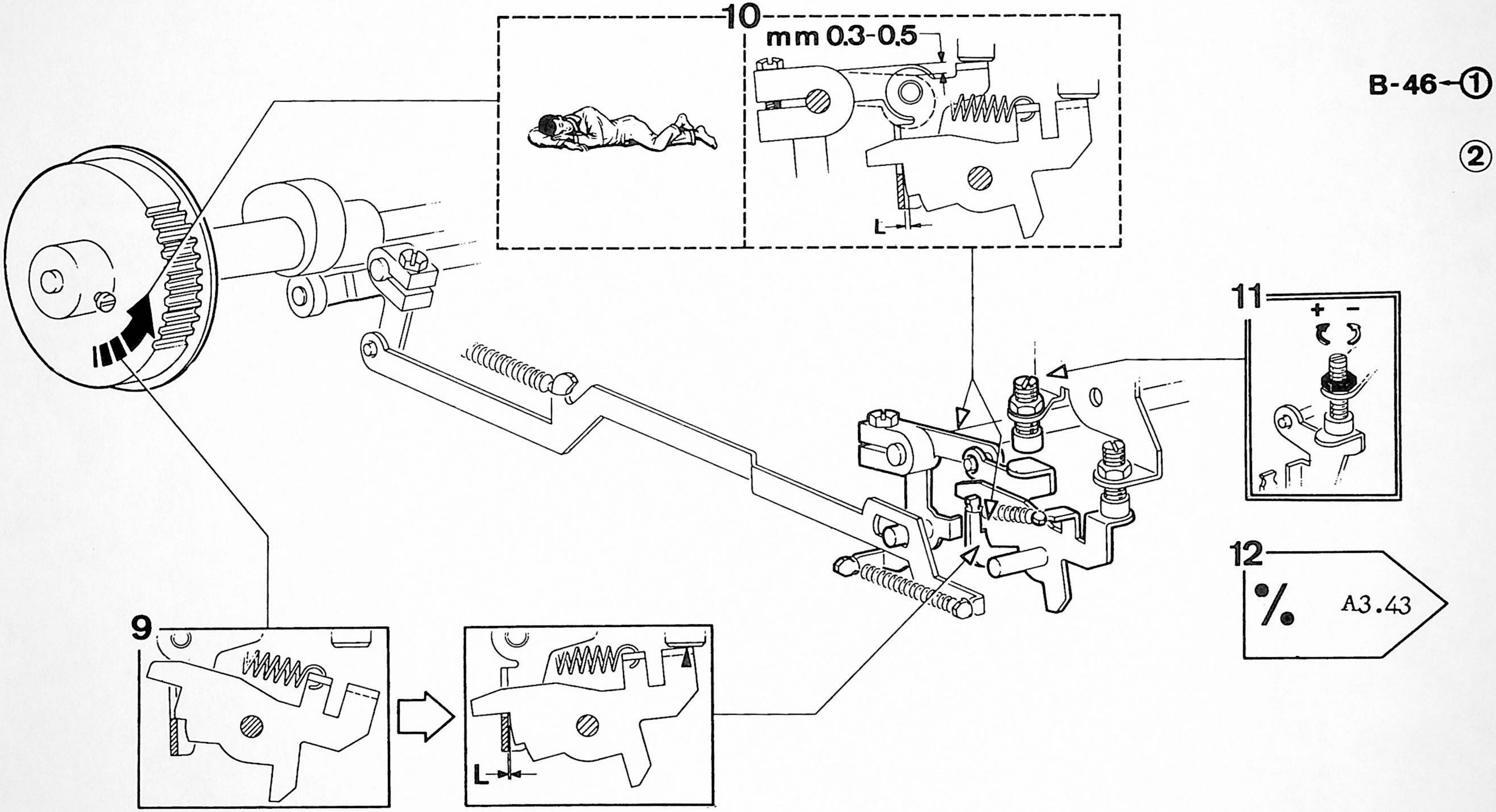
⑧ ADJUSTING THE DOUBLE ENTRY KEYBOARD LOCK

After depressing two keyboard keys, the conditions illustrated on page A3.41 (frames 5 and 7) must be achieved.



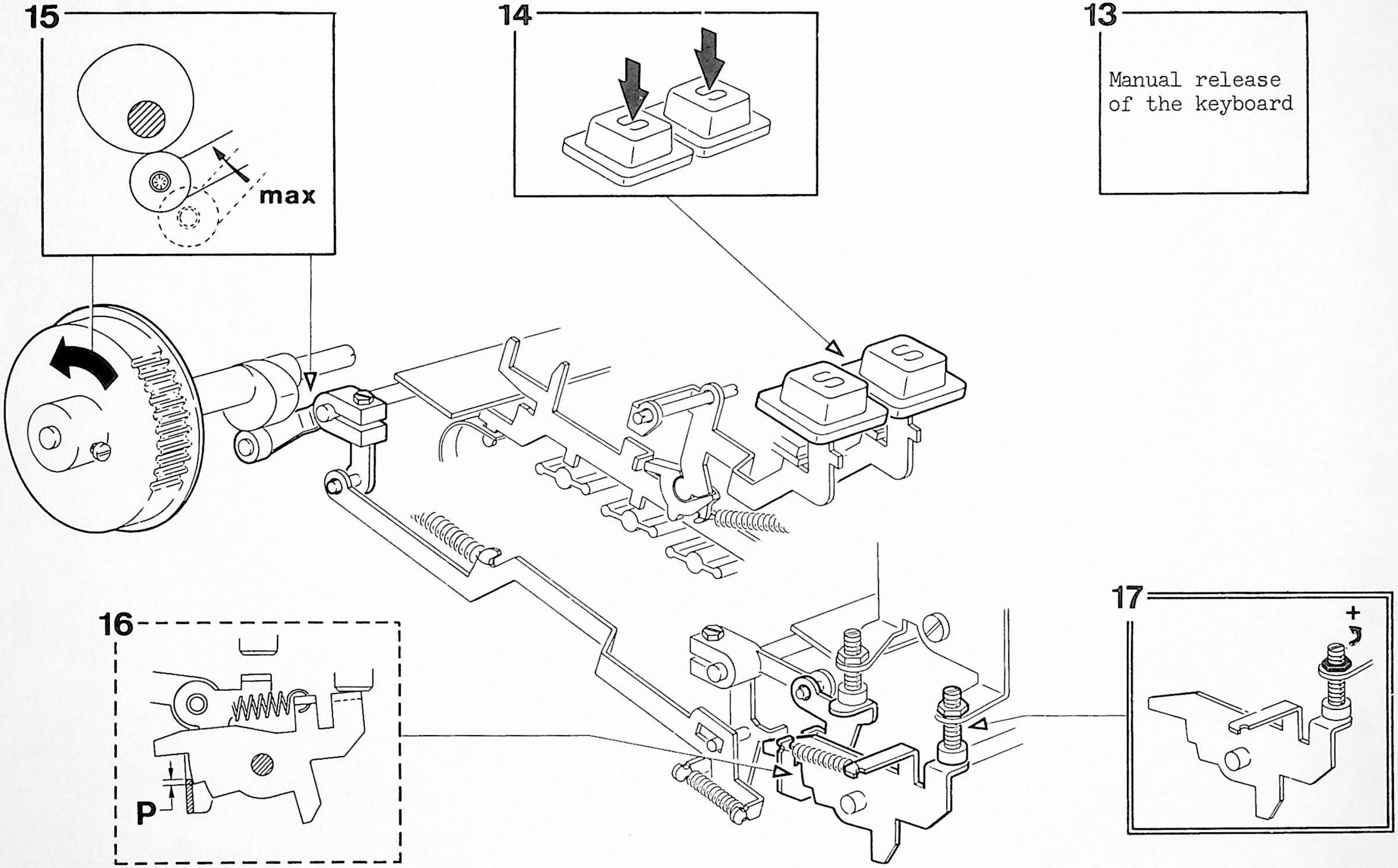

P

Adjusting the double entry keyboard lock (continuation)



NOTE: Repeat the adjustment with the P key.

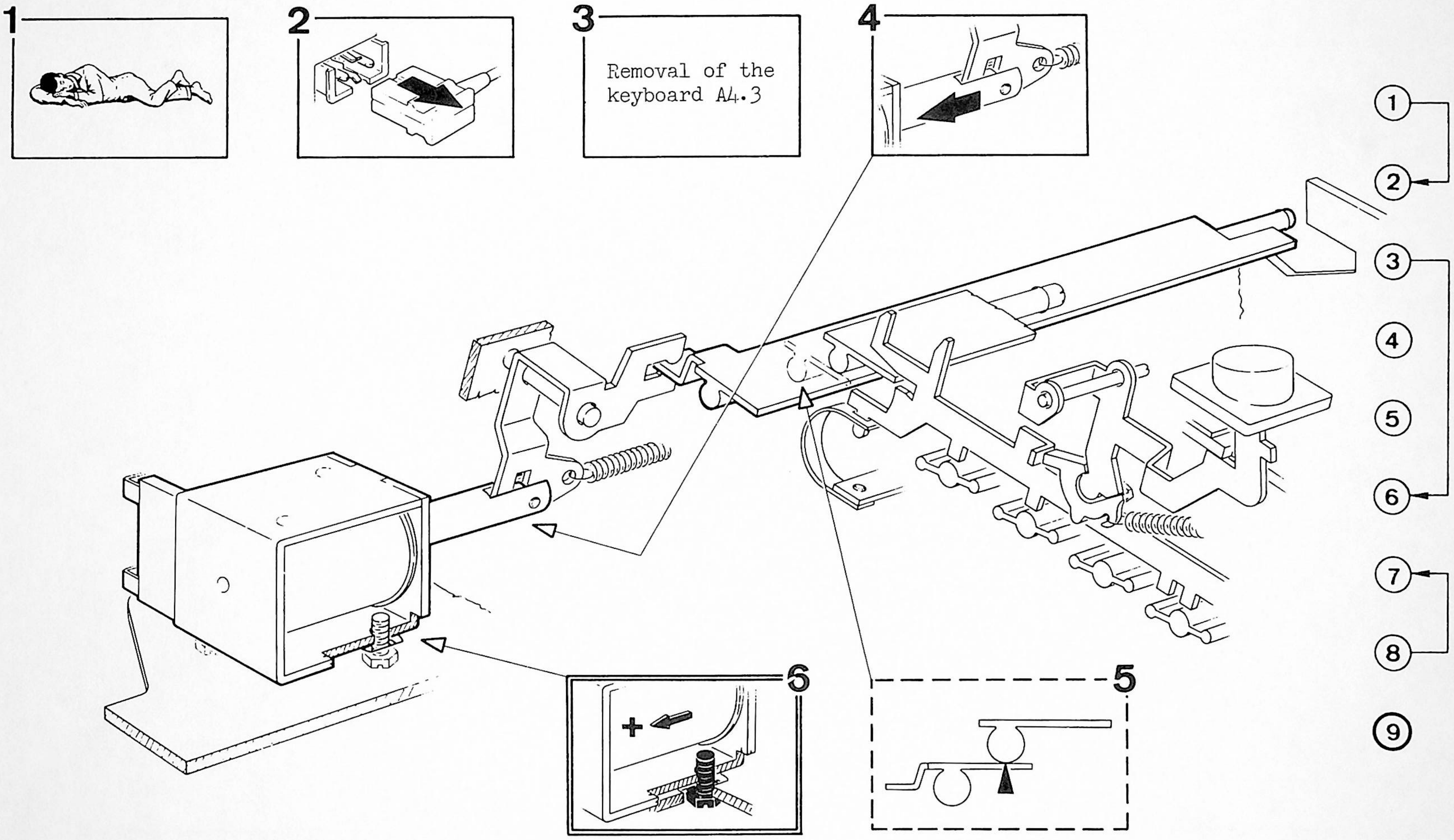
Adjusting the double entry keyboard lock (continuation)



NOTE: Repeat the adjustment by simultaneously depressing two keys located at the extremes of the keyboard. Hold P is obtained by reducing (eventually to the possible minimum) the clearance shown on frame 6 of page A3.40.

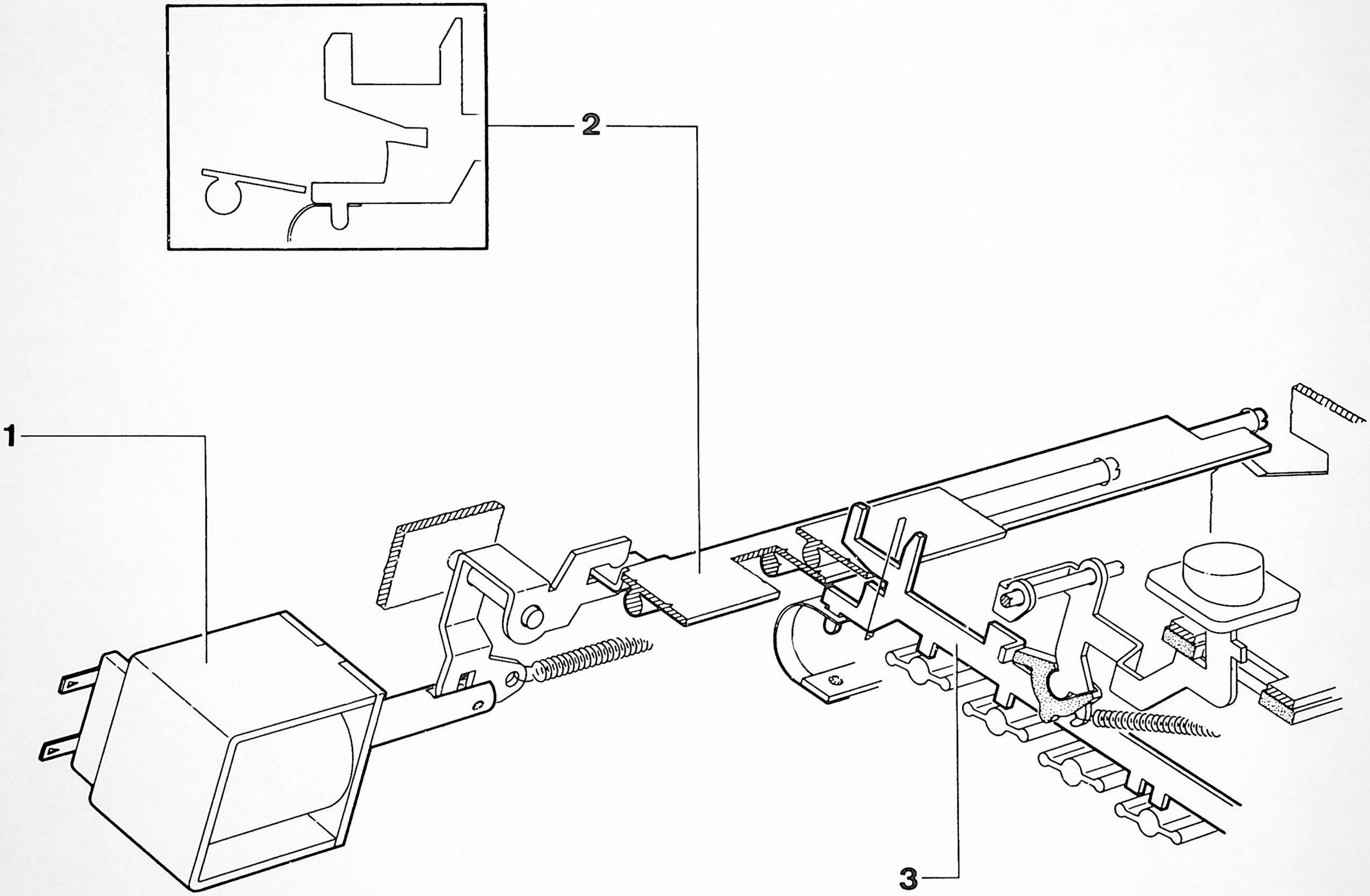
⑨ ADJUSTING THE KEYBOARD LOCK DURING THE OPERATION

With the power switch on, but with the machine not in operation, the keyboard must be unlocked. If otherwise, the condition illustrated on page A3.45 (frame 2) must be achieved.

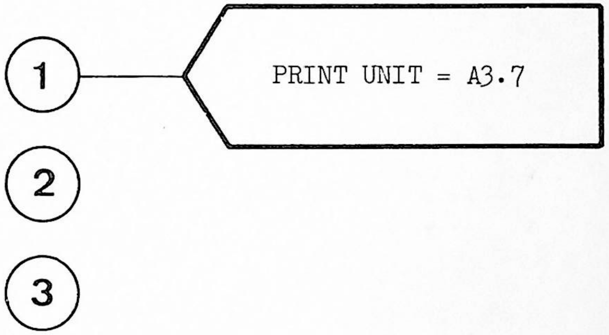


Removal of the keyboard A4.3

NOTE: The support condition must be checked on the whole length of the bail or at least on its extremes.

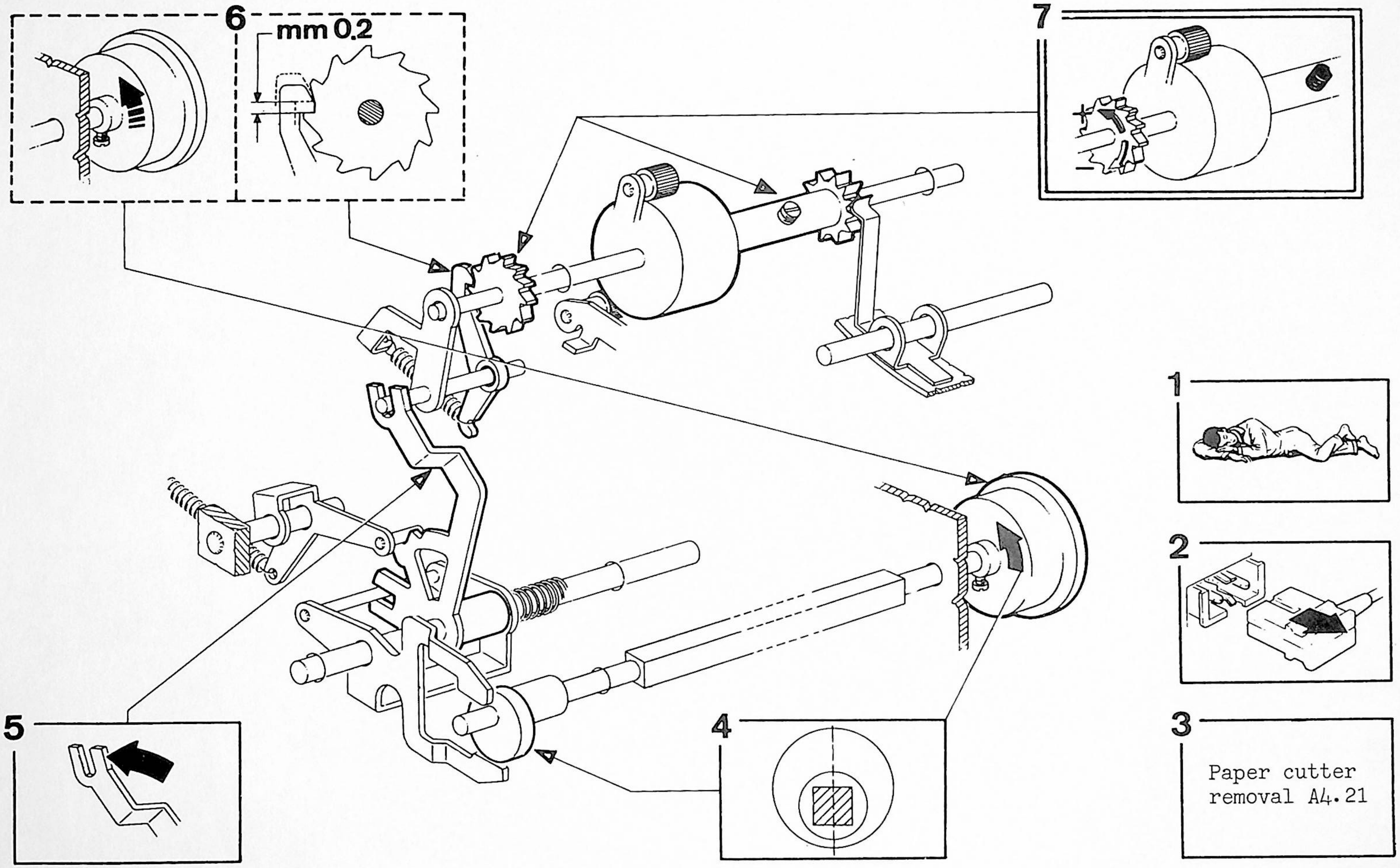


PAPER FEED UNIT ADJUSTMENTS



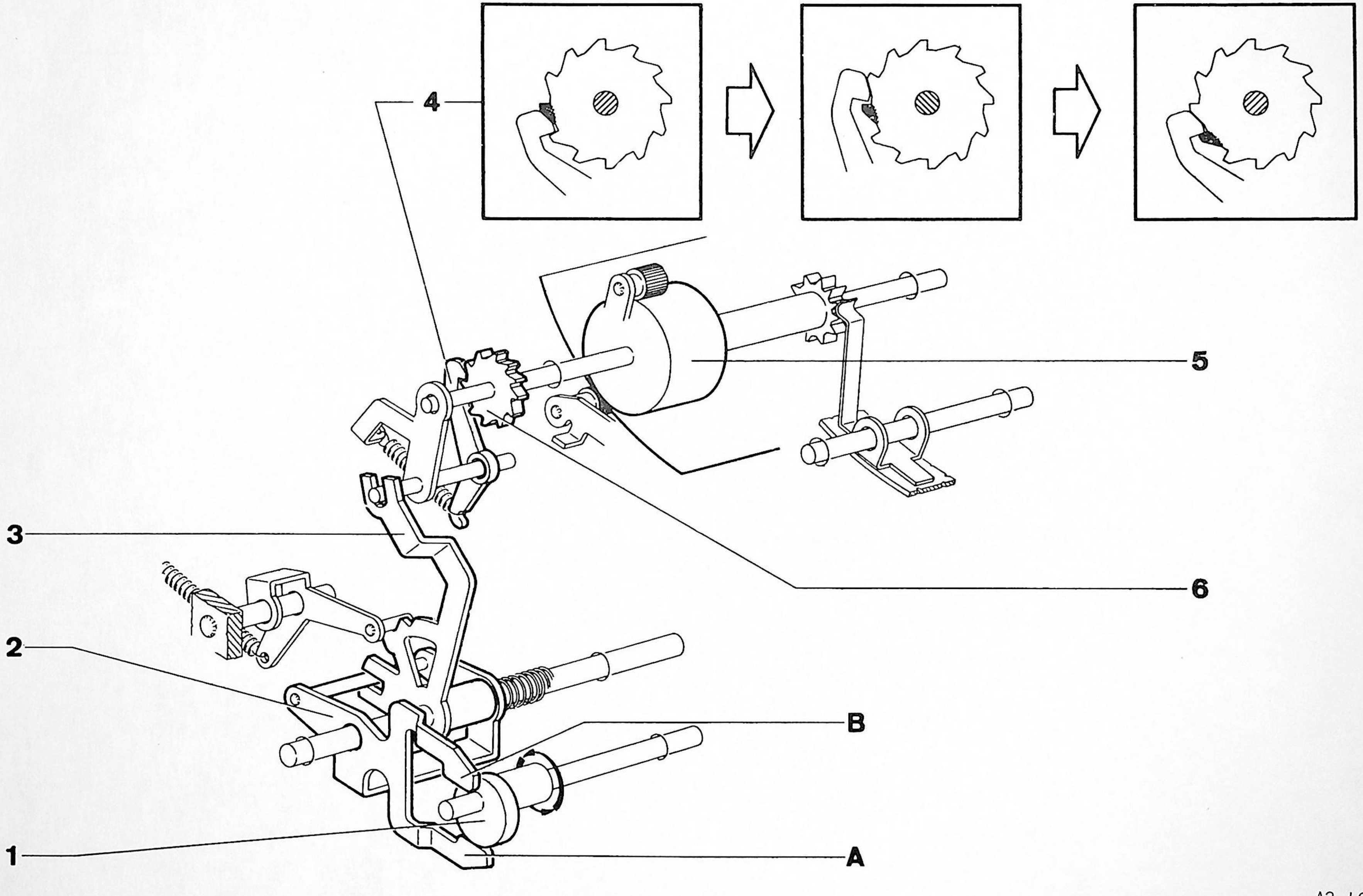
① ADJUSTING THE AMOUNT OF CONTROL OF THE AUTOMATIC LINE SPACE

At the end of every printing phase, the conditions illustrated on page A3.49 (frame 4) must be achieved.



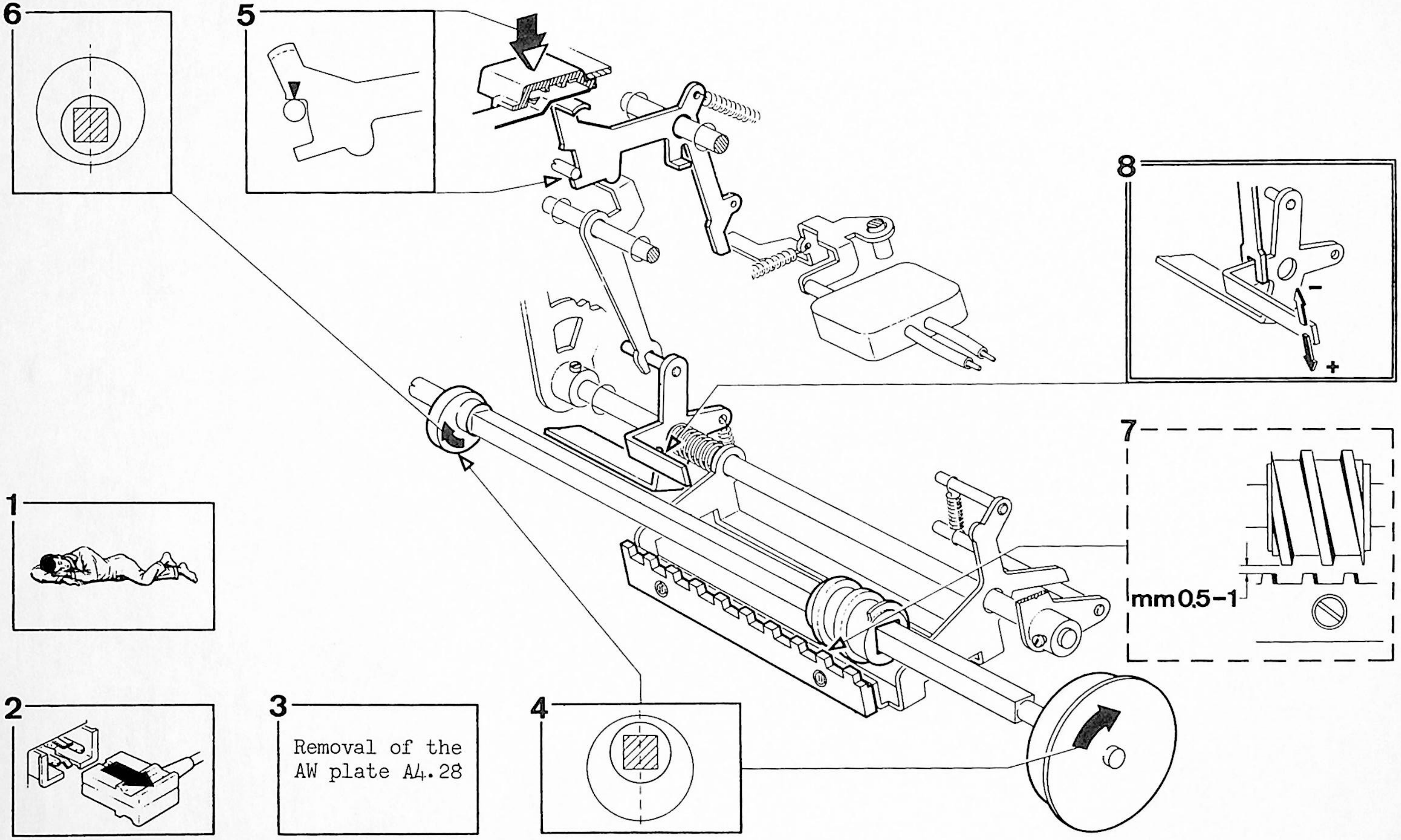
Paper cutter removal A4.21

① ② ③


B
A

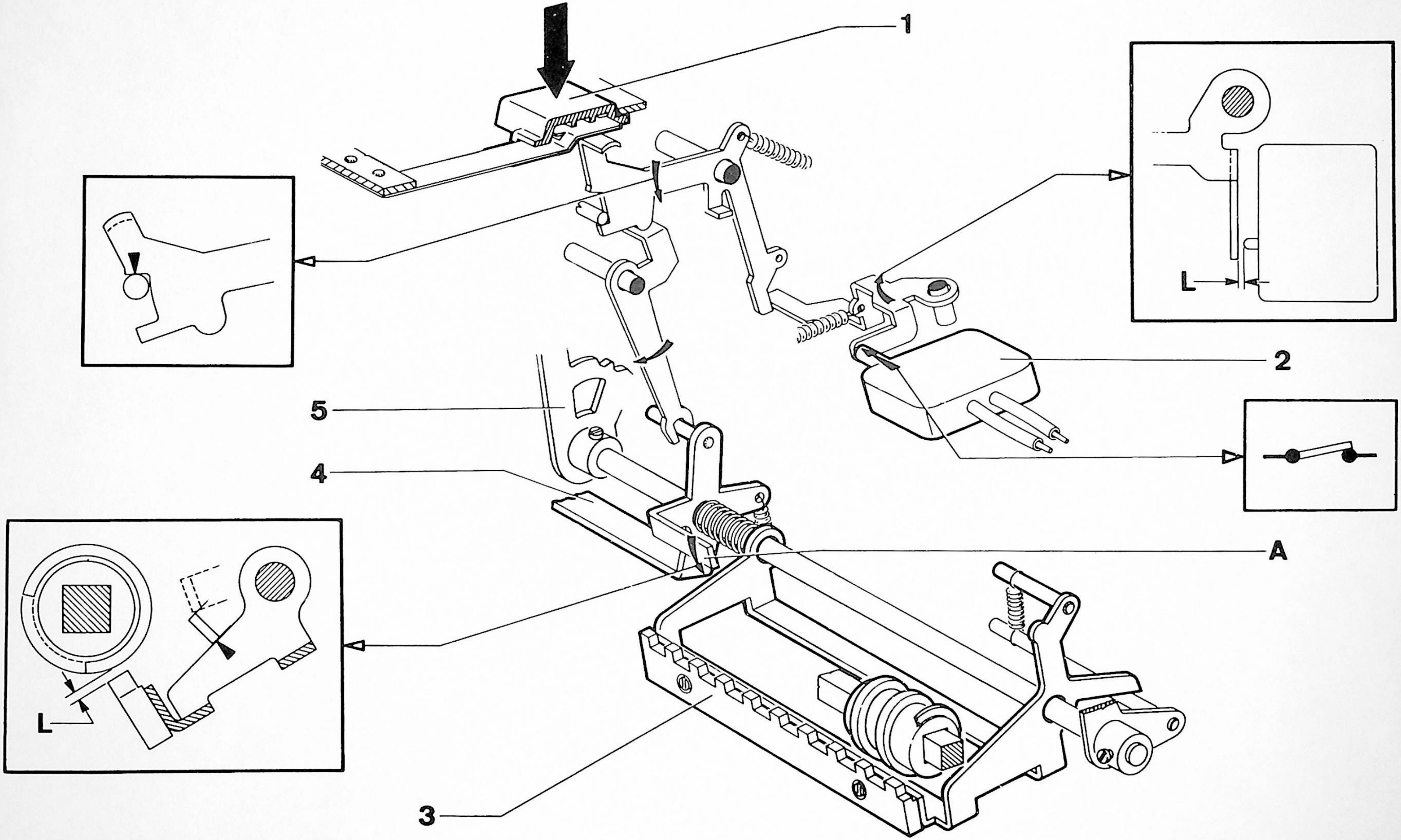
② ADJUSTING THE EXCLUSION OF CARRIAGE MOVEMENT RACK ENGAGEMENT

Depressing the manual line space key, the condition illustrated on the lower left frame of page A3.51 must be achieved.



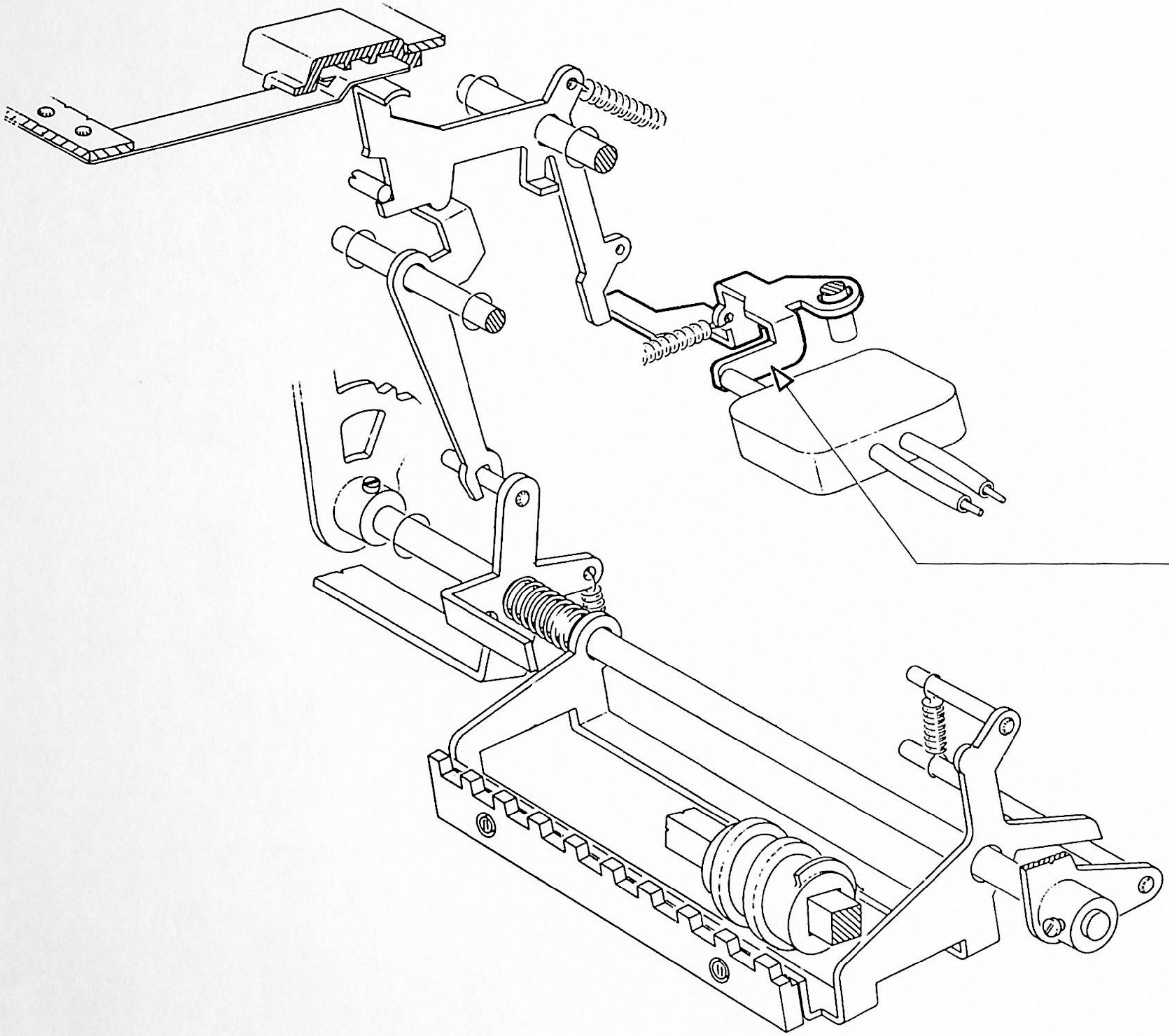
Removal of the AW plate A4.28

① ② ③


A
L
L

③ ADJUSTING THE CLOSING OF THE MANUAL LINE SPACE MICROSWITCH

During the non-line space cycles, the microswitch must be open.

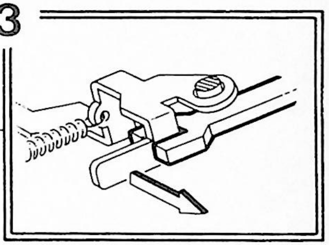


1

2

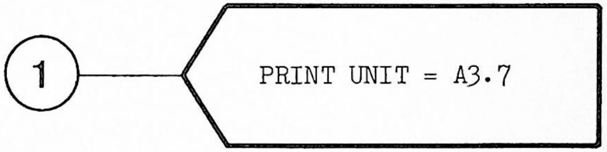
Check that the motor does not rotate

3



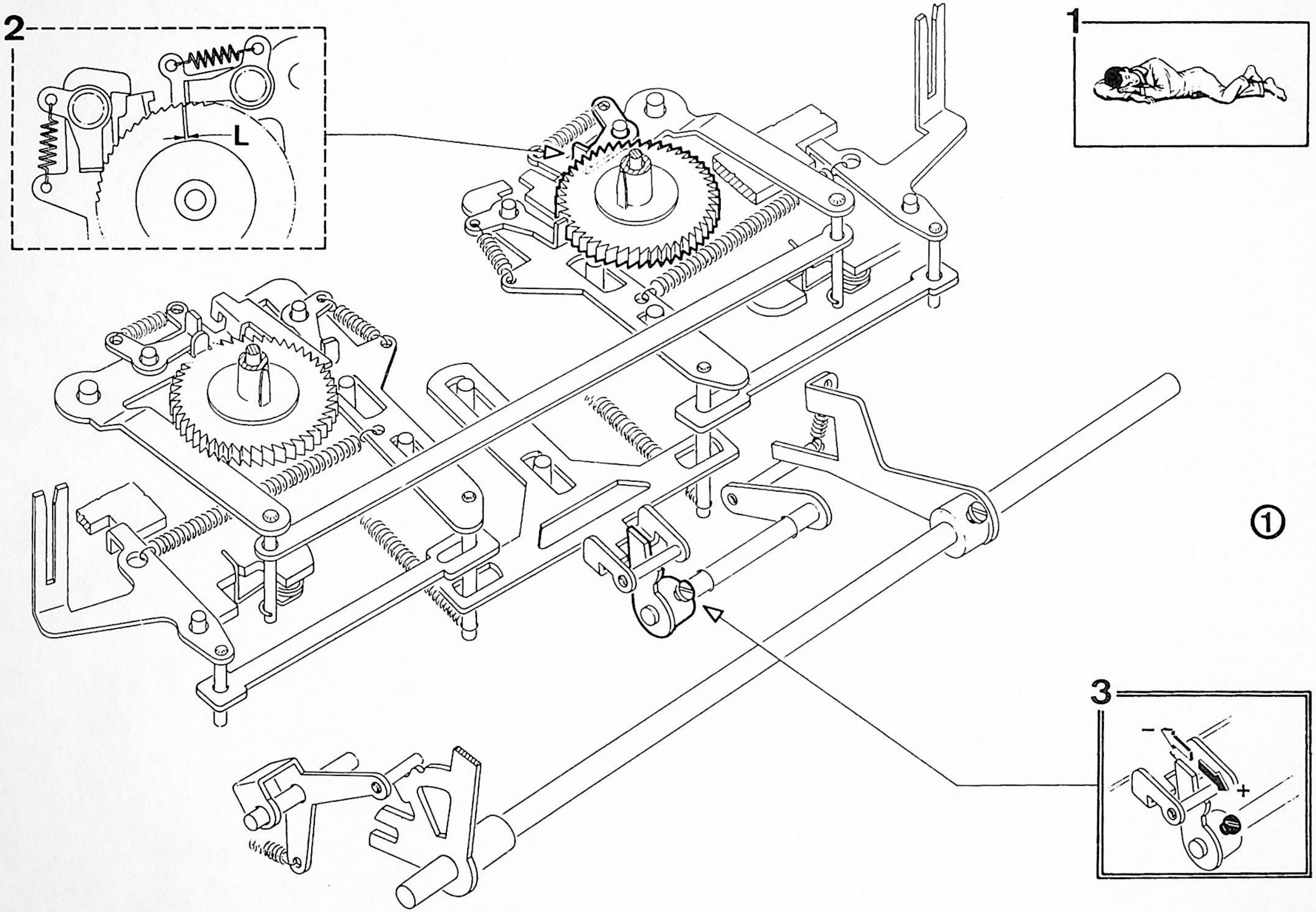
NOTE: Form in the direction of the arrow only if the motor runs.

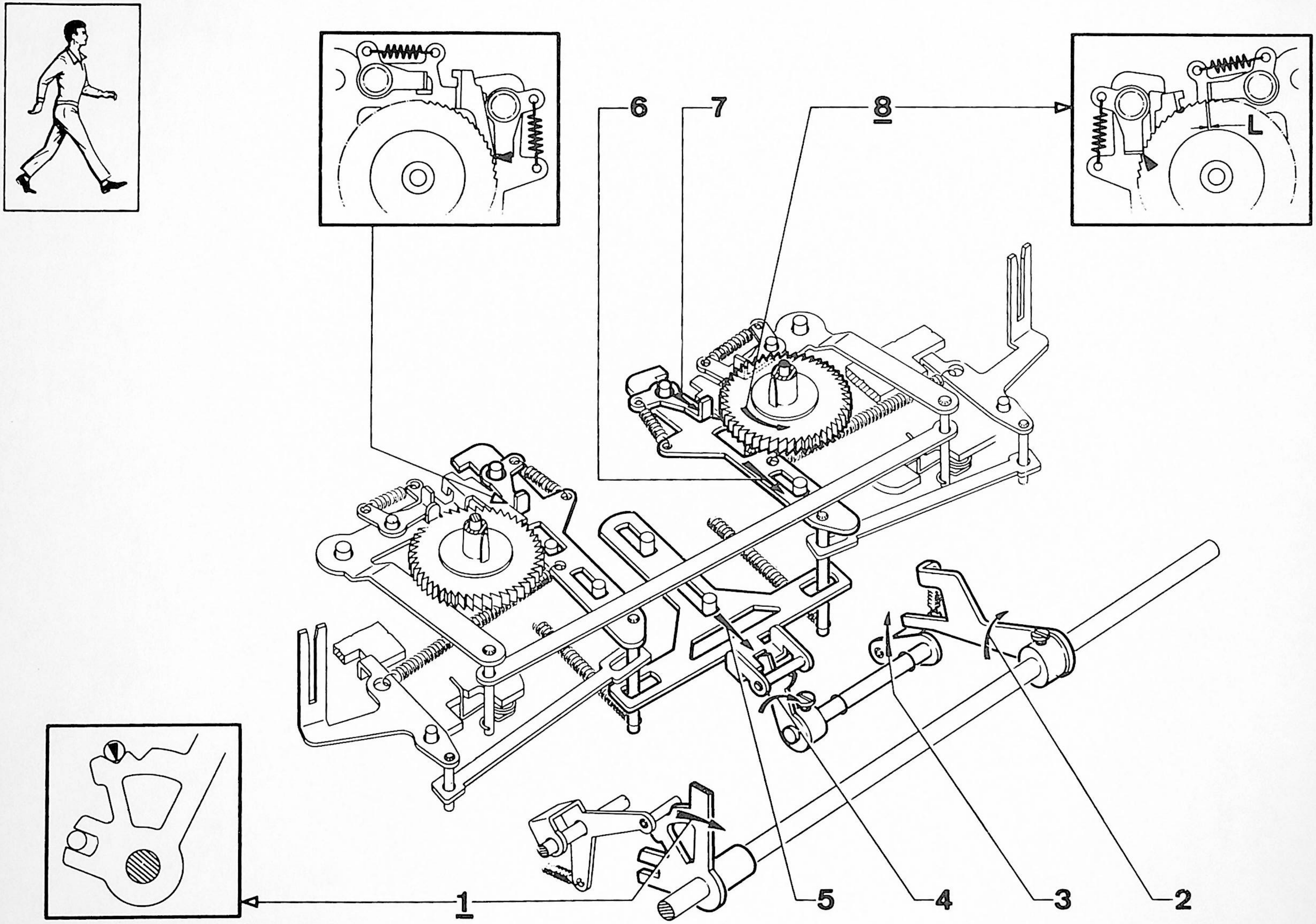
RIBBON UNIT ADJUSTMENT



① ADJUSTING THE AMOUNT OF RIBBON FEED

At the end of each printing phase the condition illustrated on page A3.55 (frame 8) must be achieved.




L

DISASSEMBLY PROCEDURES

A4

APPENDIX A4 INDEX

Removal of: Page

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Reedswitch board (RSB) A4.4
Decimal wheels and round-off selector A4.5
Spark suppressor board (SSB) A4.6
Keyboard lock solenoid A4.7
Time switch A4.9
Magnet rolls holder A4.10
Power supply unit (PSU) A4.11
Power supply board (PSB) A4.13
Power switch A4.14
AC filter A4.15
Leading load capacitor A4.16
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Motor capacitor A4.19
Print unit A4.20
Paper cutter A4.21
AW microswitch A4.22
Print electromagnet A4.23
Printer solenoid A4.24
Repeat line space microswitch A4.25
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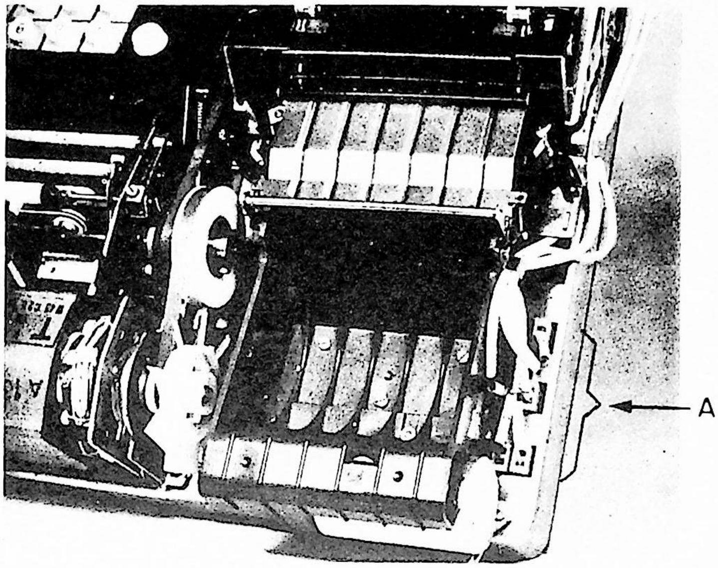
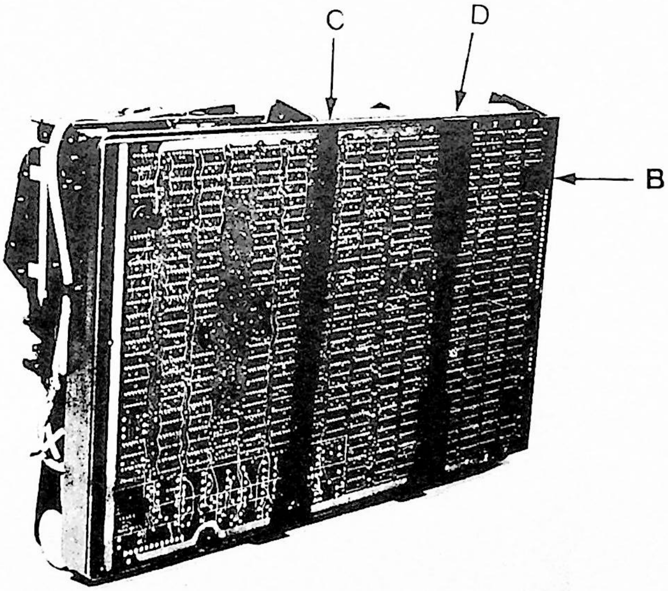
AW plate A4.28

REMOVAL OF THE ELECTRONIC COMPUTING UNIT (ECU)

a - Remove cover.

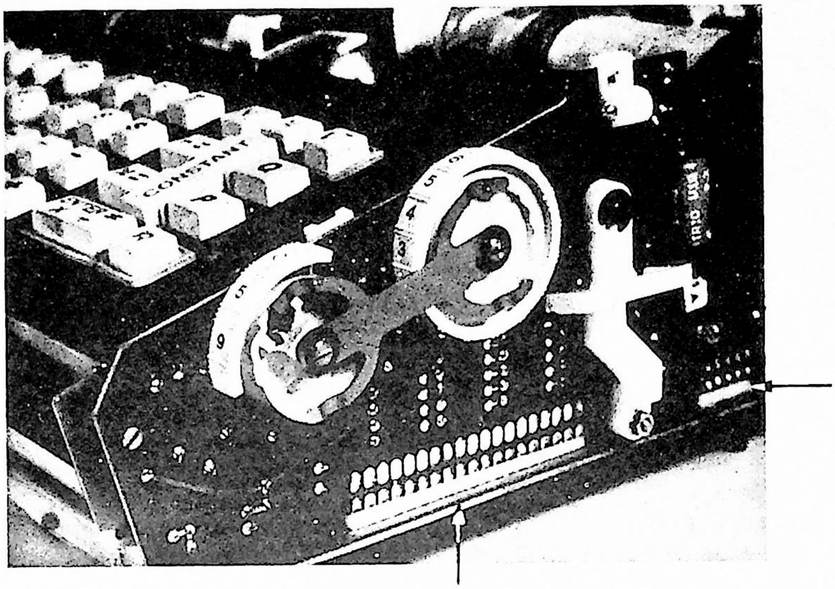


b - Disconnect the five connectors A.



c - Unscrew the four feet B. (In the figure, these feet are represented without the corresponding auxiliary feet.)

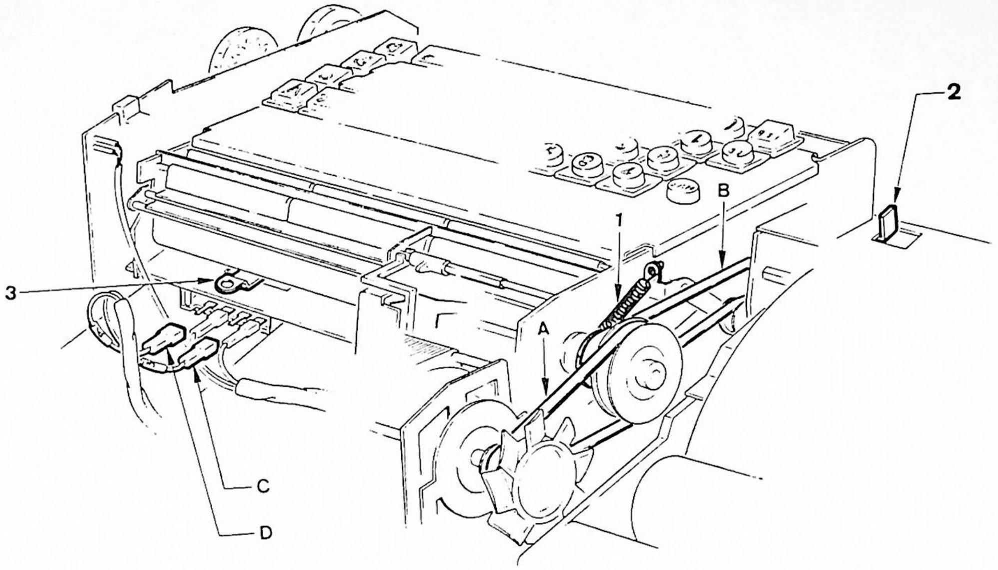
d - Extract the Electronic Computing Unit.



NOTE: During re-assembly, be careful in plugging the female connectors of reedswitch and power supply boards into male connectors of ECU (see detail in figure).

When the ECU has been replaced, it is necessary to assemble rubber protection C between lines 06 and 07, and rubber protection D on line 12.

REMOVAL OF THE KEYBOARD



a - Release spring 1.

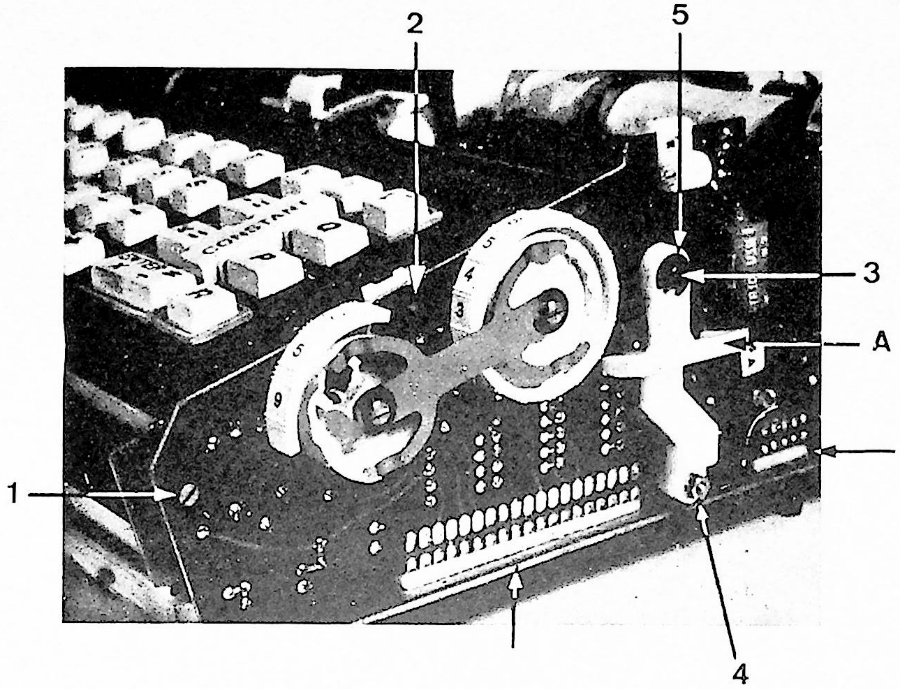
b - Remove the two transmission belts A and B from pulleys.

c - Move latches 2 and 3 completely to the left.

d - Extract keyboard, and disconnect the two fastons C and D from their contacts. To avoid errors in re-assembly, put an identifying mark on each of them.

NOTE: During re-assembly, it is advisable to immediately position belt B on its belt stretcher.

REMOVAL OF THE REEDSWITCH BOARD



a - Remove keeper 5 and unscrew nut 4.

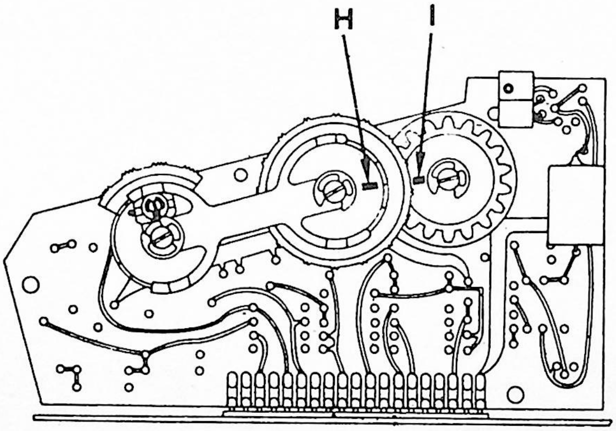
b - Take off handle A.

c - Back out screws 1 and 2, then pin 3.

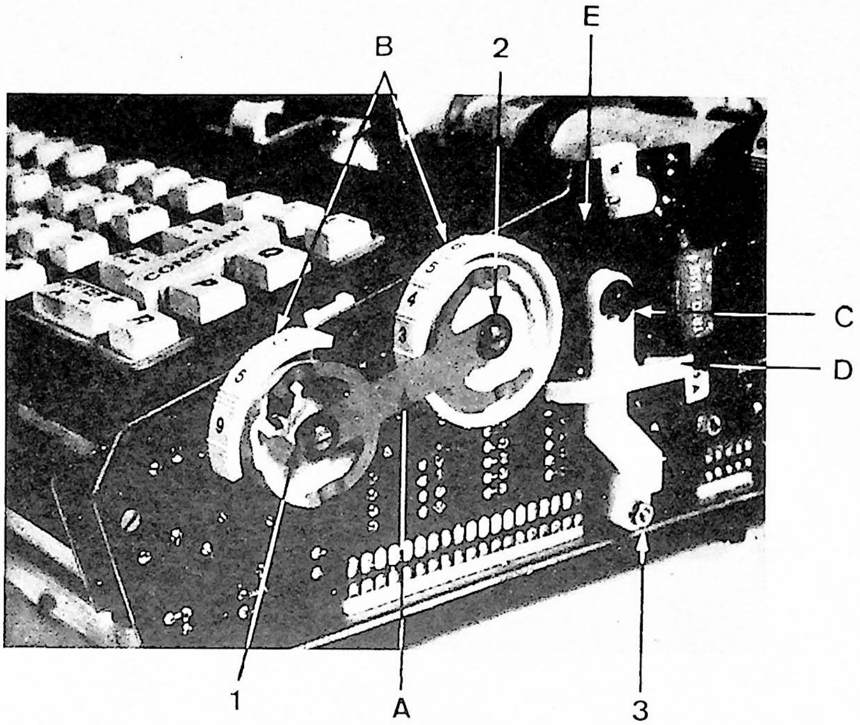
d - Move the reedswitch board slightly outward, to allow its extraction from the top.

NOTE: During re-assembly, be careful in plugging the reedswitch board female connector into the ECU male connector (see detail in figure).

Check that marks H and I of decimal wheels are in phase, as shown in figure.



REMOVAL OF DECIMAL WHEELS AND ROUND-OFF SELECTOR



a - Remove keepers 1 and 2.

b - Remove positioner A.

c - Take wheels B off their shafts.

d - Unscrew nut 3.

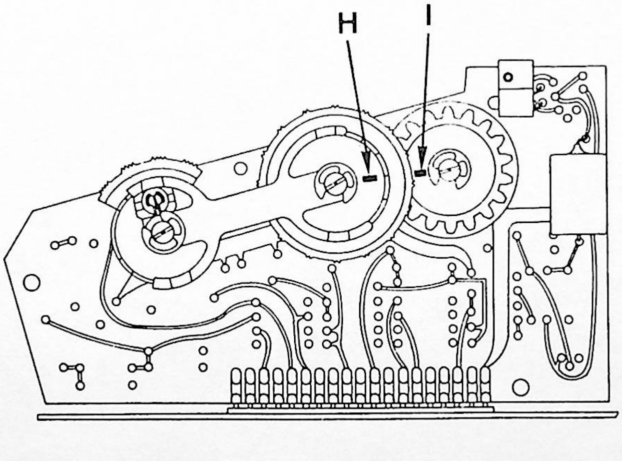
e - Remove keeper C.

f - Take off handle D.

g - Remove keeper from shaft of wheel E.

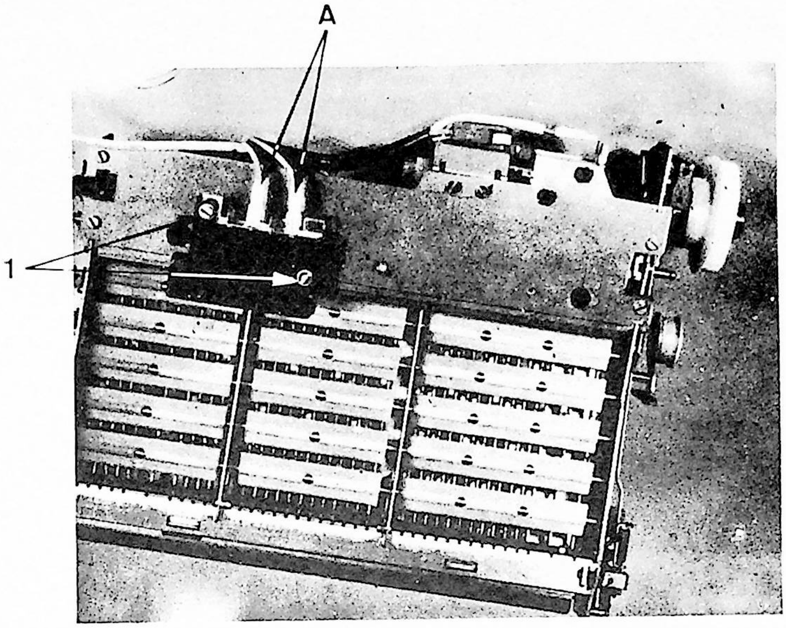
h - Remove wheel E.

NOTE: During re-assembly, check that marks H and I of decimal wheels are in phase, as shown in figure.



REMOVAL OF SPARK SUPPRESSOR BOARD

a - Remove the keyboard (A4.3).



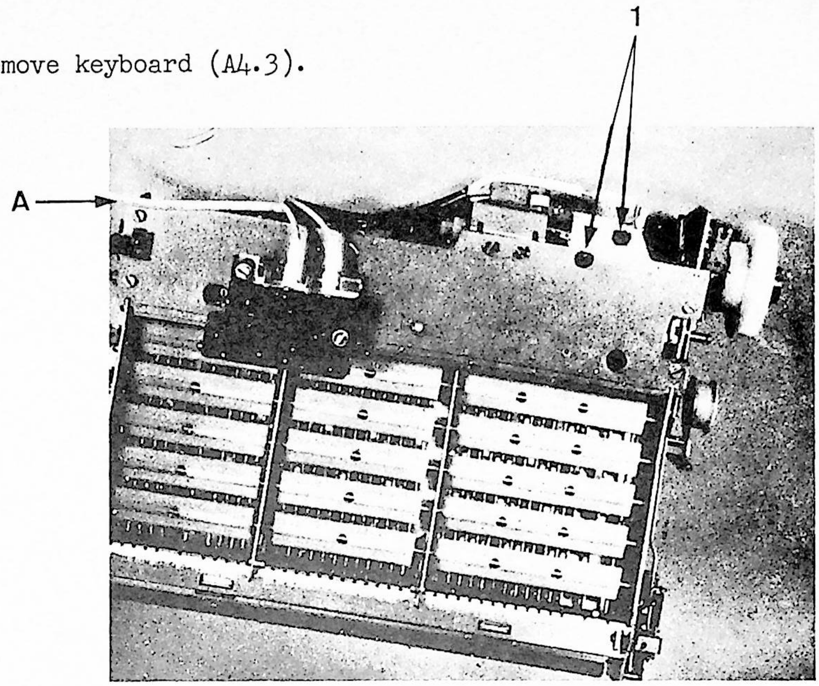
b - Disconnect the fastons A. To avoid errors in re-assembly, put an identifying mark on each of them.

c - Back out screw 1.

d - Remove spark suppressor board.

REMOVAL OF THE KEYBOARD LOCK SOLENOID

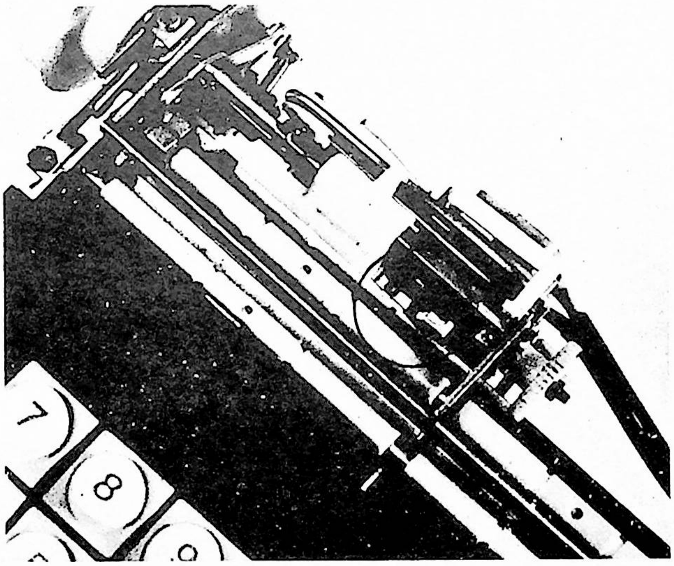
a - Remove keyboard (A4.3).



b - Disconnect the two wires A from reedswitch board.

c - Back out screw 1.

d - Remove keyboard lock solenoid with its wiring.

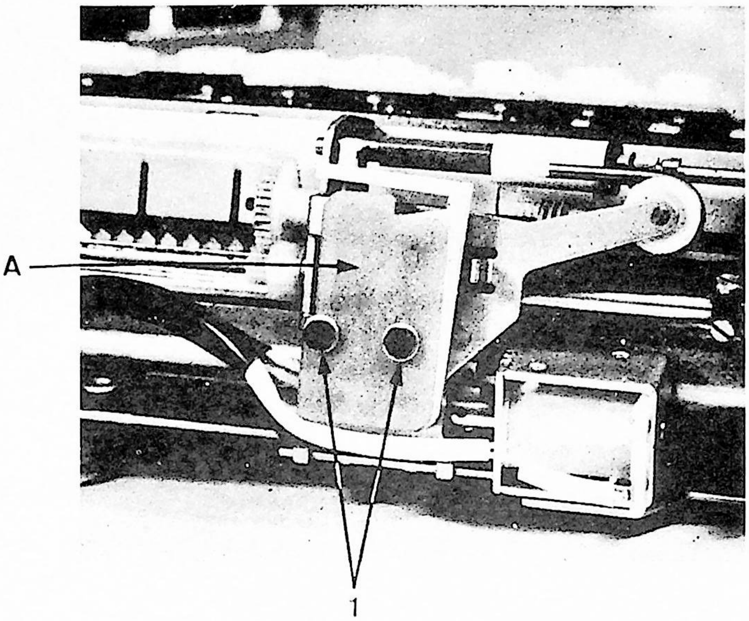


NOTE: During re-assembly, be sure to insert the bail lug into the slotted hole of the keyboard lock control linkage (see detail in figure).

Be careful not to change the normal path of the keyboard lock solenoid wiring.

REMOVAL OF THE TIME SWITCH

a - Remove keyboard (A4.3).



b - Back out the two screws 1.

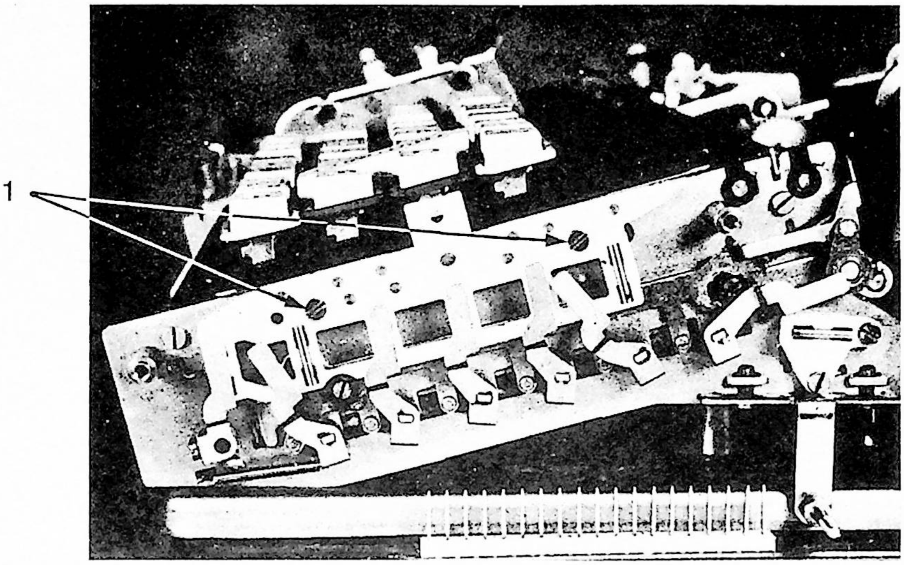
c - Remove time switch.

d - Remove protection board A.

e - Unsolder the two connecting wires.

REMOVAL OF THE MAGNET ROLLS HOLDER

a - Remove reedswitch board (A4.4).

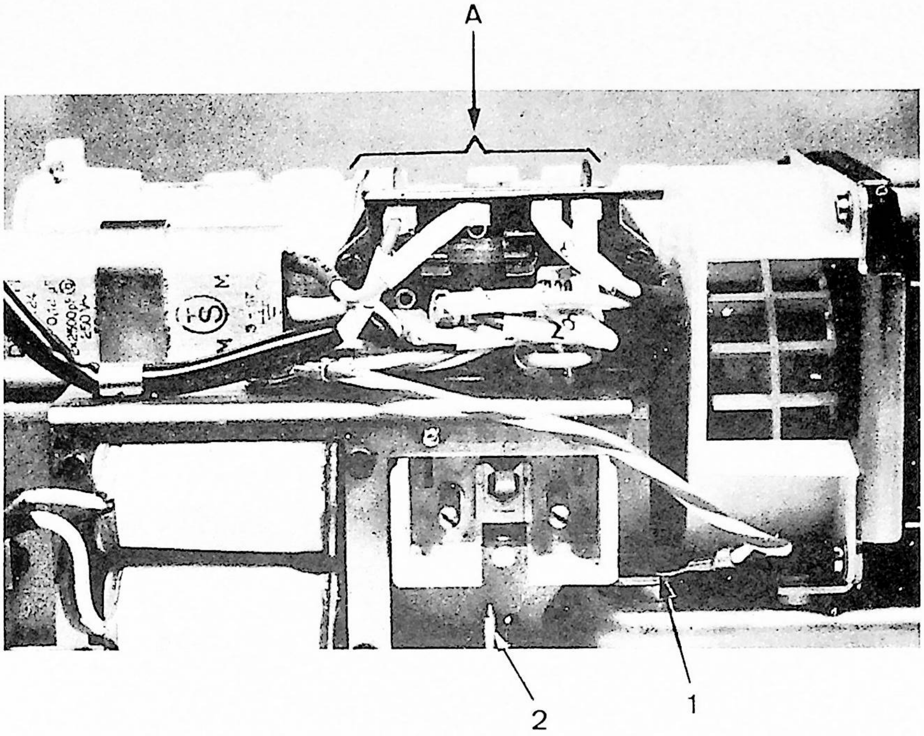


b - Back out screws 1.

c - Move magnet rolls holder unit slightly outward, to allow its extraction from the top.

REMOVAL OF THE POWER SUPPLY UNIT

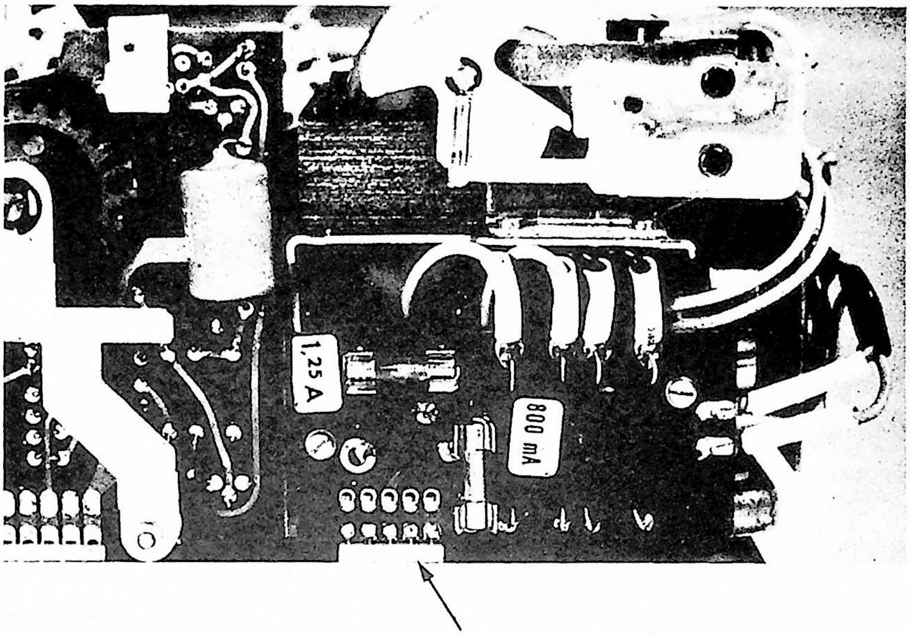
a - Remove cover (A2.6).



b - Among fastons indicated by letter A, disconnect the ones identified by tubings 3, 4, 5, 6, 7, and 8.

c - Back out the four screws 1 keeping the power supply unit in position.

d - Lift power supply unit, by releasing it from positioning pins 2.

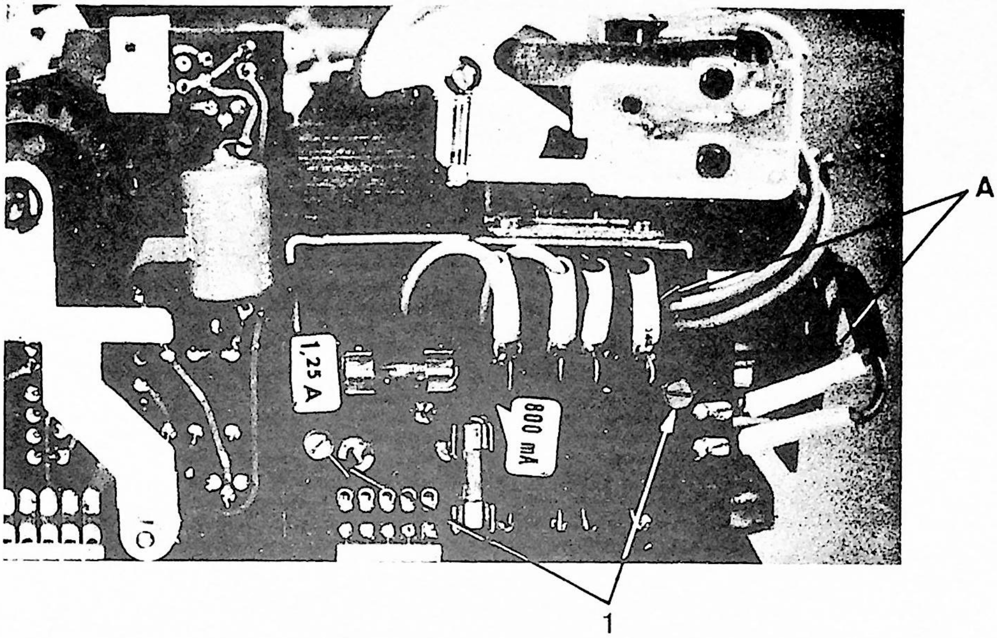


NOTE: During re-assembly, be careful when plugging the power supply board female connector into the ECU male connector (see detail in figure).

During re-assembly, do not forget to place the ground wire under screw 1.

REMOVAL OF THE POWER SUPPLY BOARD

a - Remove power supply unit (A4.11).

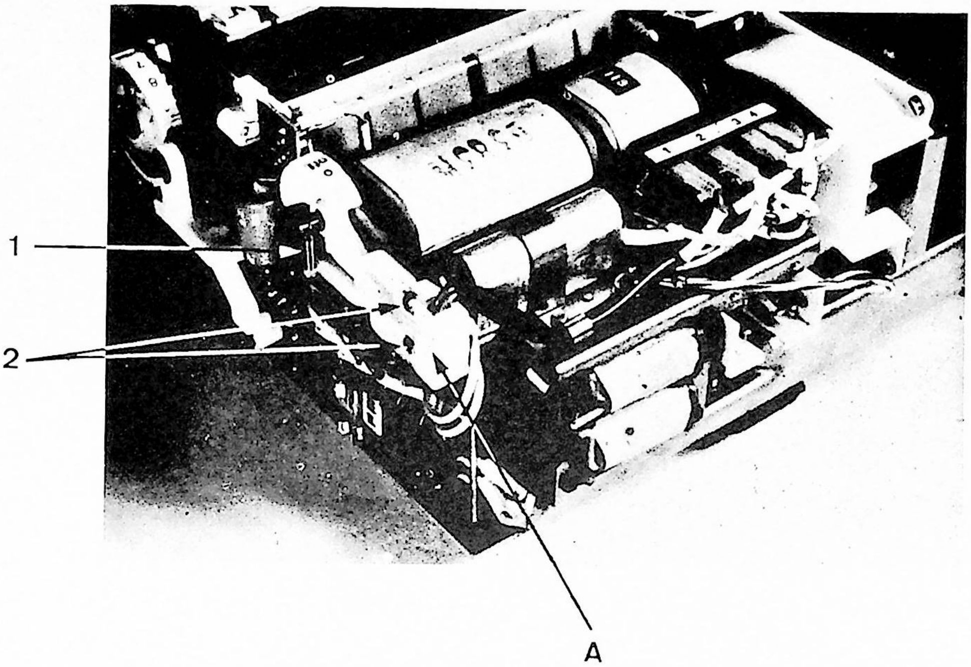


b - Disconnect the two sets of fastons indicated by letter A. To avoid errors in re-assembly, put an identifying mark on each of them.

c - Back out screws 1.

d - Remove power supply board.

REMOVAL OF THE POWER SWITCH



a - Release spring 1.

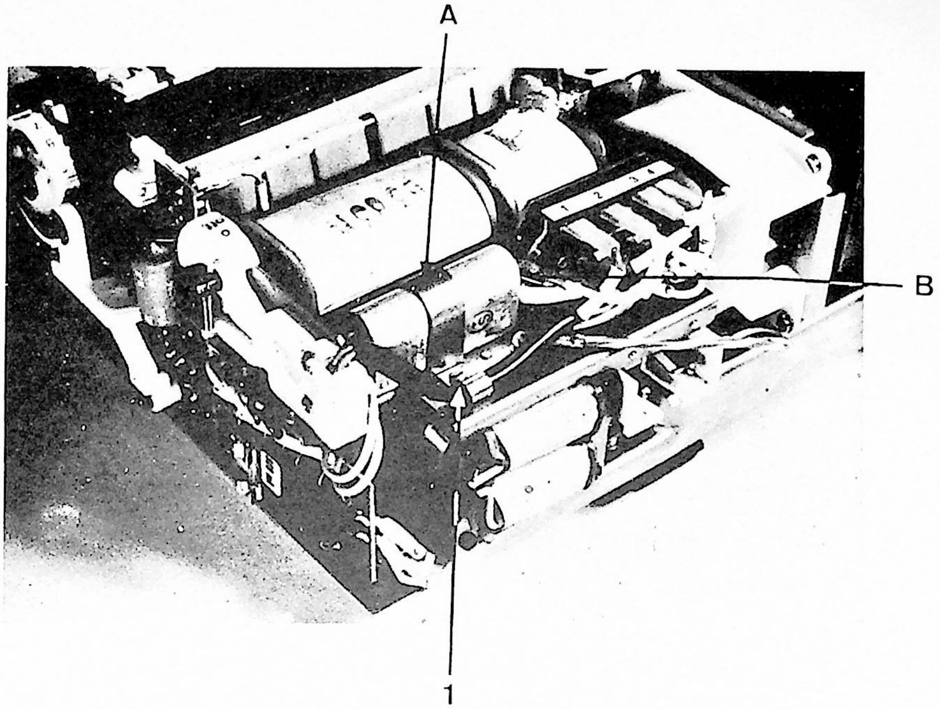
b - Back out screws 2.

c - Remove power switch.

d - Remove protection board A.

e - Unsolder the two connecting wires.

REMOVAL OF THE AC FILTER

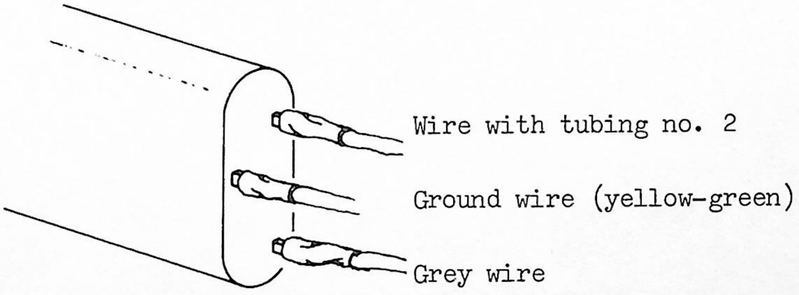


a - Back out screw 1.

b - Remove fixing clamp A.

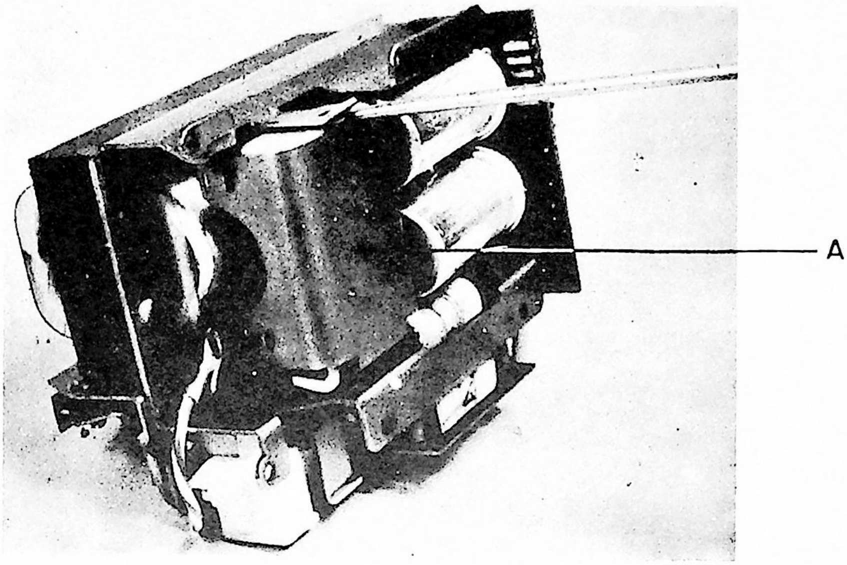
c - Unsolder the three wires B and two wires C of filter terminals.

NOTE: During re-assembly, be sure to solder the three wires B as shown in figure.



REMOVAL OF THE LEADING LOAD CAPACITOR

a - Remove power supply unit (A4.11)



b - Insert a screwdriver as shown in figure. Lever screwdriver upward, until lug of housing A comes out of lock opening.

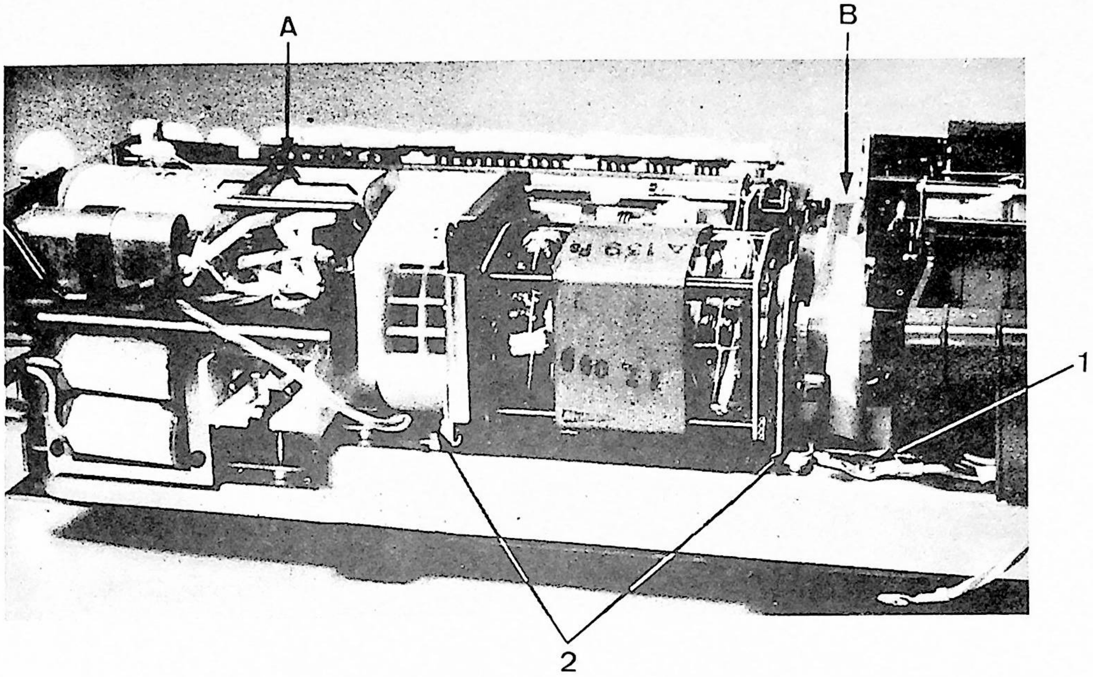
c - Remove capacitor from its housing.

d - Unsolder wires from terminals identified by marks 0 and III.

NOTE: During re-assembly, the position of the two wires to be soldered to capacitor terminals is unimportant.

REMOVAL OF THE MOTOR UNIT

a - Remove cover (A2.6).

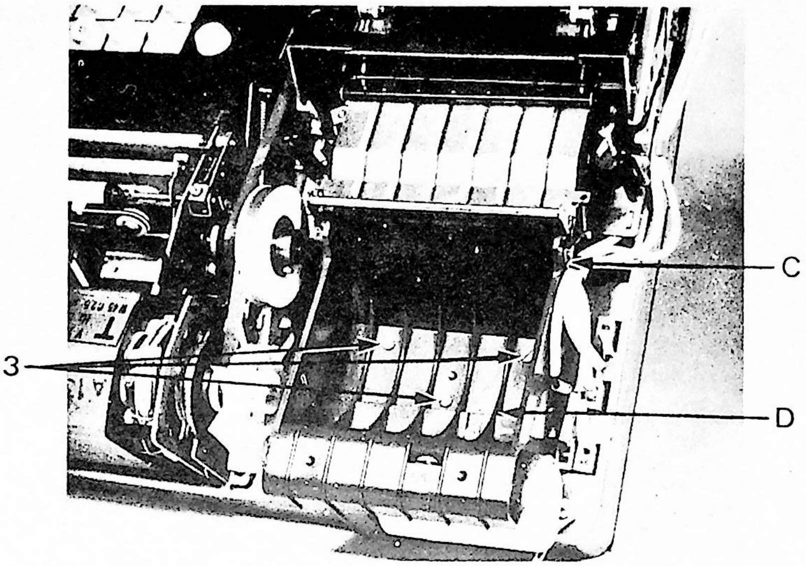


b - Among the fastons indicated by letter A, disconnect the ones identified by tubings 4, 5, 7, and 8.

c - Back out screw 1.

d - Back out the four screws 2 fixing motor to base.

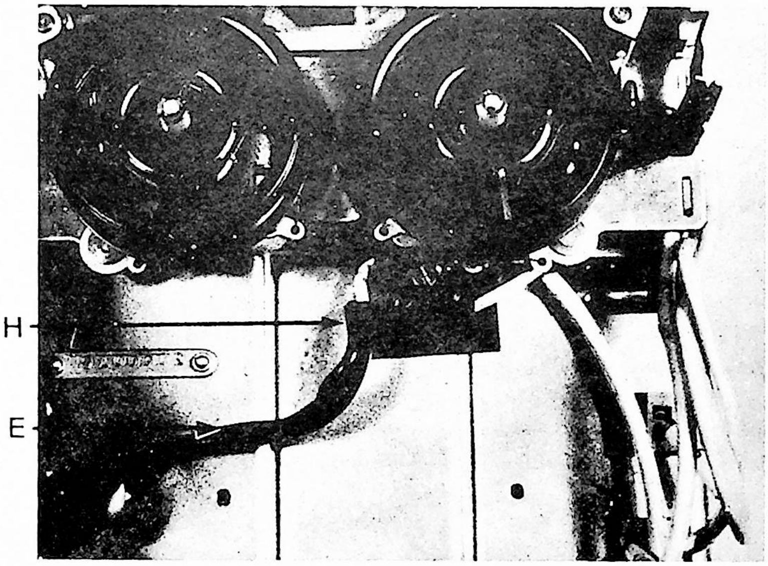
e - Remove toothed belt B from side of clutch.



f - Remove wire clamp C by backing out the corresponding screw.

g - Back out the three screws 3.

h - Remove tally roll holder D.



i - Disconnect wires of cable E from terminal strip H.

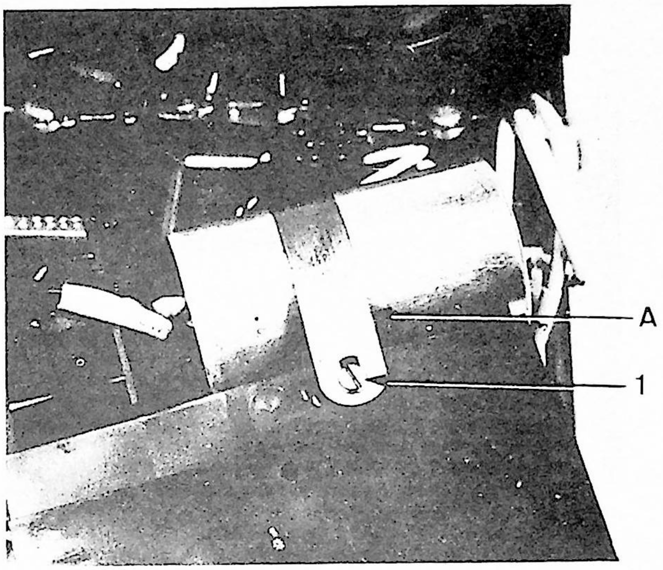
l - To release capacitor from tally roll holder, perform operations b and c, described on page A4.19.

m - Disassemble motor, together with capacitor.

NOTE: During re-assembly, be sure to keep wiring in position by means of the corresponding wire clamps, which are fastened by the motor front screws.

REMOVAL OF THE MOTOR CAPACITOR

a - Perform operation f, g, and h described on page A4.18.

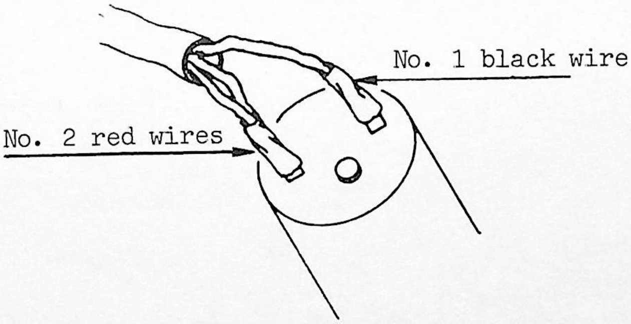


b - Back out screw 1.

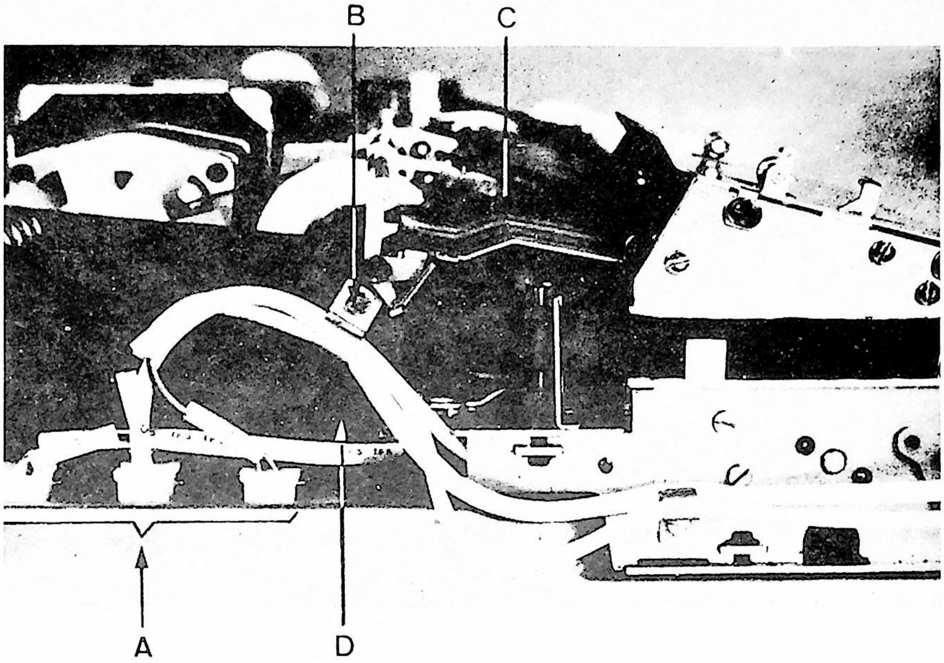
c - Remove clamp A.

d - Unsolder connection wires.

NOTE: During re-assembly, wires must be solderd as shown in figure.



REMOVAL OF THE PRINT UNIT

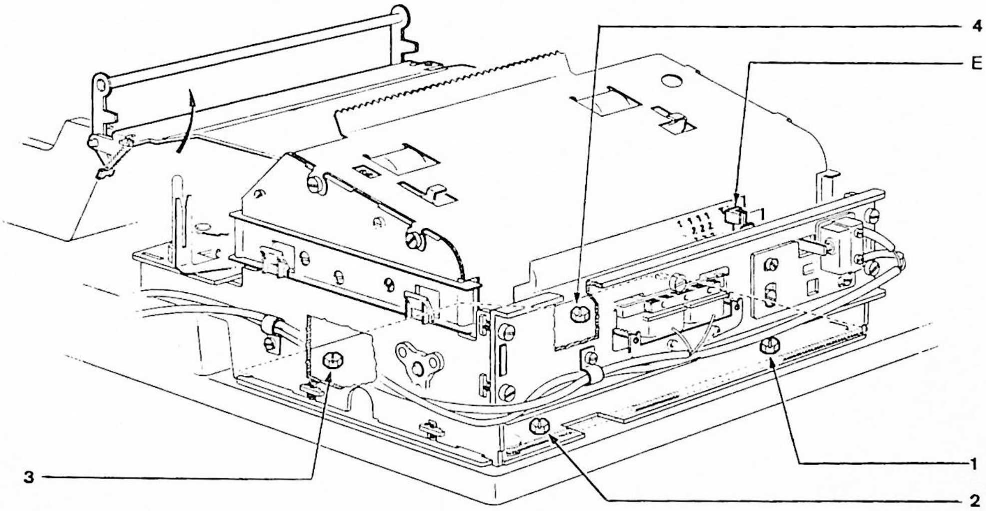


a - Disconnect the five connectors A.

b - Remove wire clamp B by backing out corresponding screw.

c - Lift ribbon cover C.

d - Disconnect from terminal strip D the wires coming from print unit.



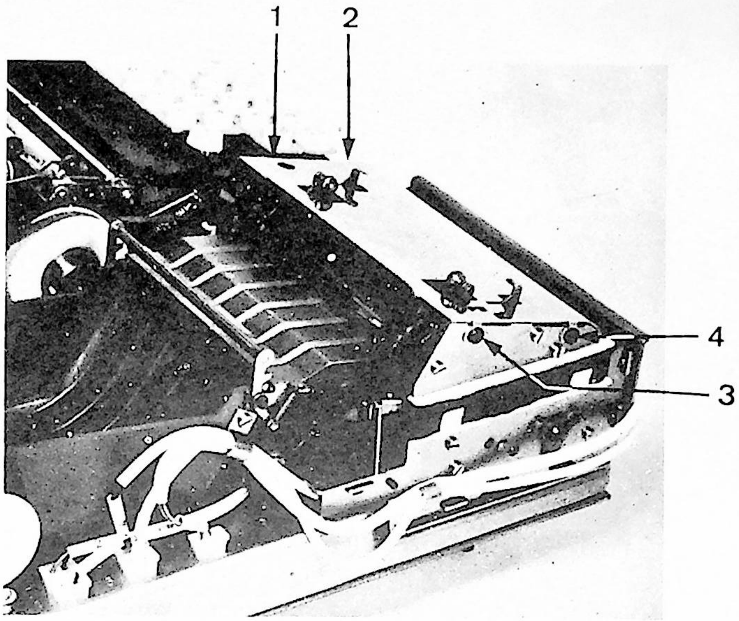
e - Move carriage E to the left; then back out screw 1.

f - Back out screw 3. If necessary, displace ribbon reversal frame to the right.

g - Back out screws 2 and 4.

h - Remove print unit.

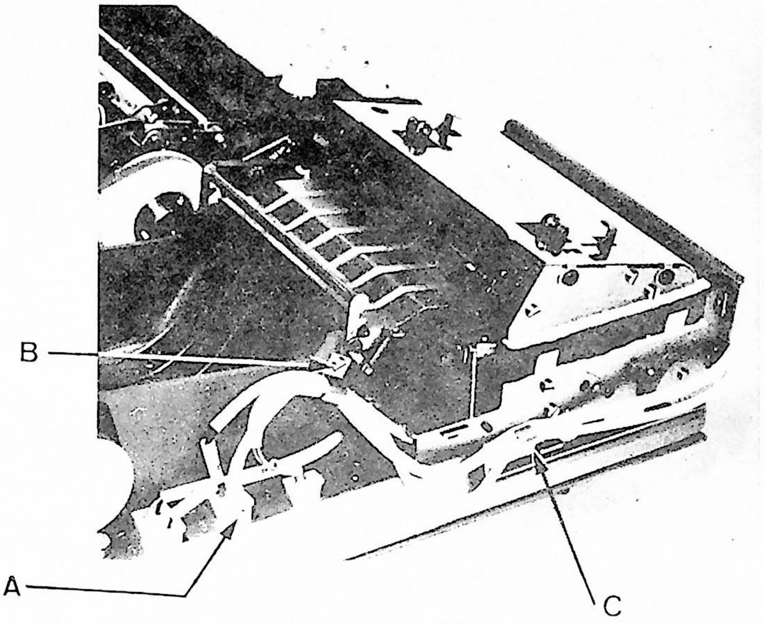
REMOVAL OF THE PAPER CUTTER



a - Back out the four screws 1, 2, 3, and 4.

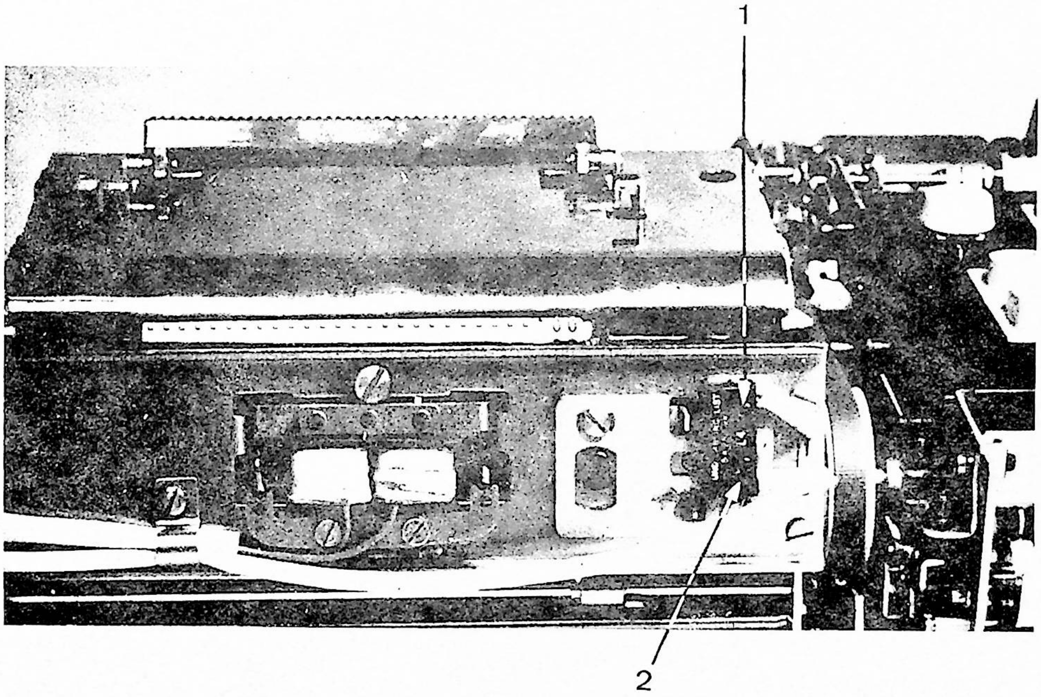
b - Remove paper cutter.

REMOVAL OF AW MICROSWITCH



a - Disconnect connector A (identified by tubing 3)

b - Remove wire clamps B and C by backing out the corresponding screws.

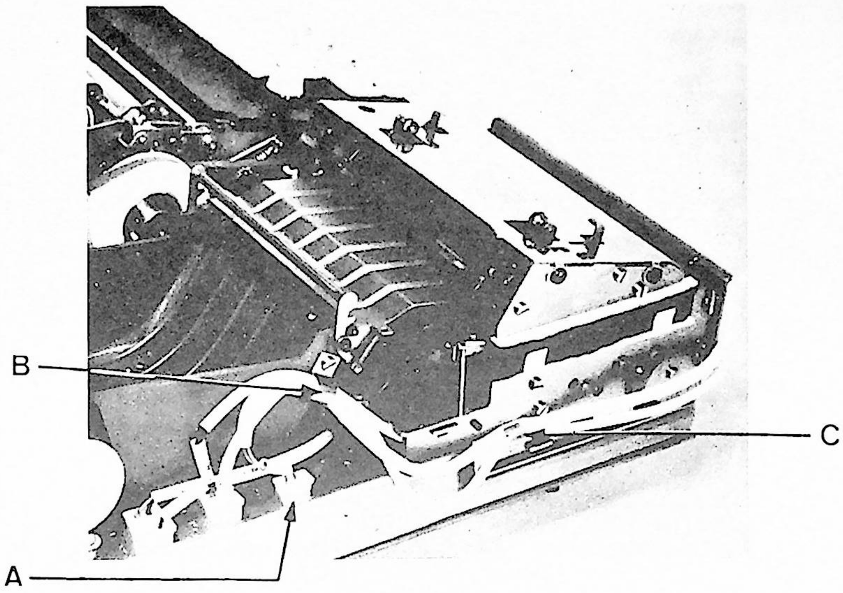


c - Remove wire clamp D, by backing out the corresponding screw.

d - Back out screws 1 and 2.

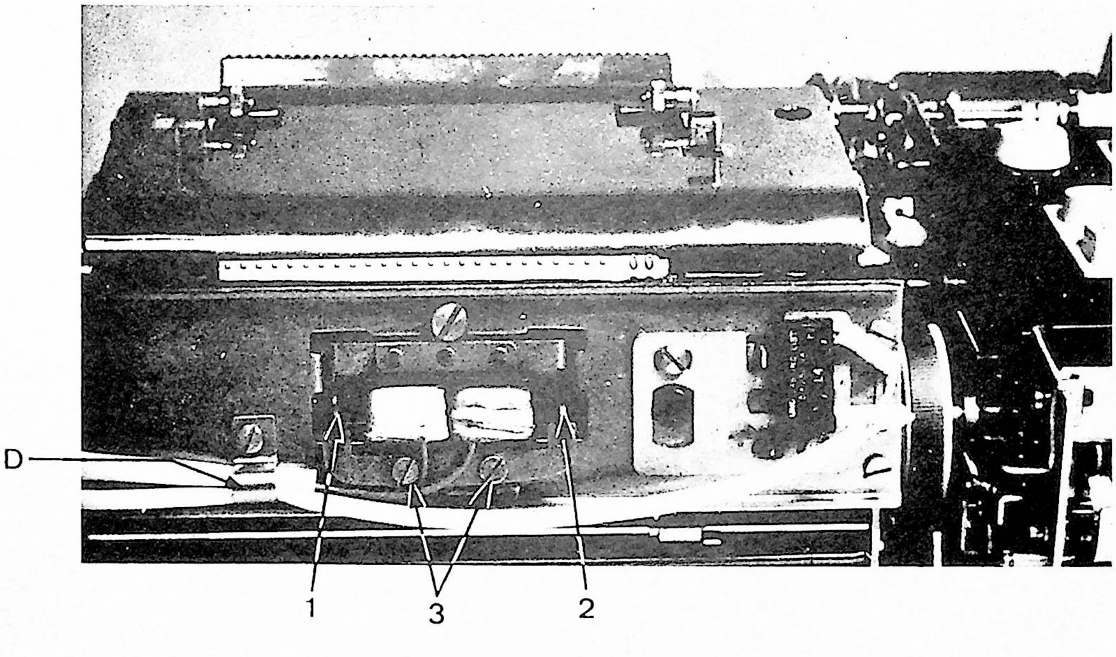
e - Remove AW microswitch.

REMOVAL OF PRINT ELECTROMAGNET



a - Disconnect connector A (identified by tubing 5).

b - Remove wire clamps B and C, by backing out the corresponding screws.



c - Remove wire clamp D, by backing out the corresponding screw.

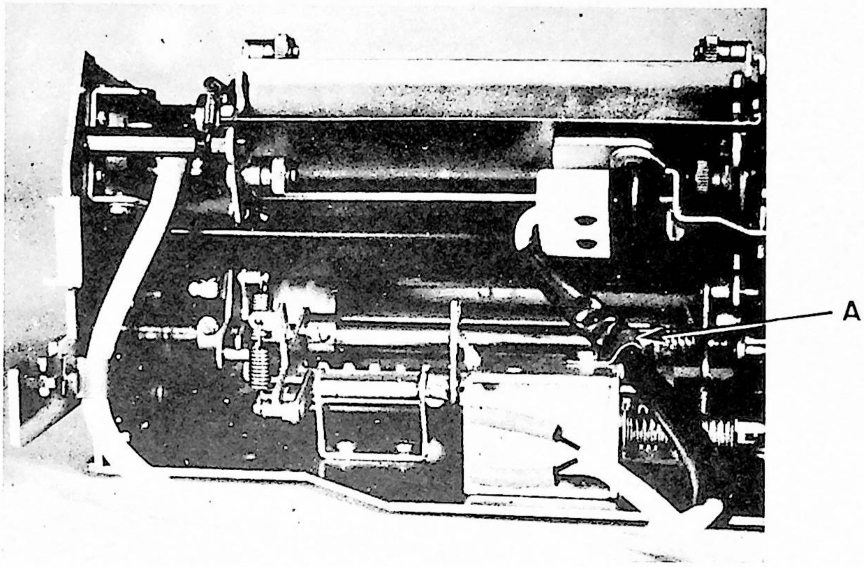
d - Release springs 1 and 2.

e - Back out screws 3.

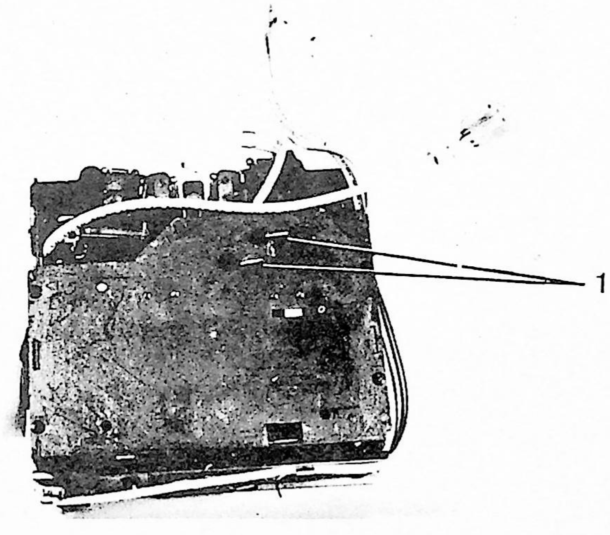
f - Remove print electromagnet.

REMOVAL OF THE PRINTER SOLENOID

a - Remove print unit (A4.20).



b - Loosen wire clamp A, by loosening the corresponding screw.

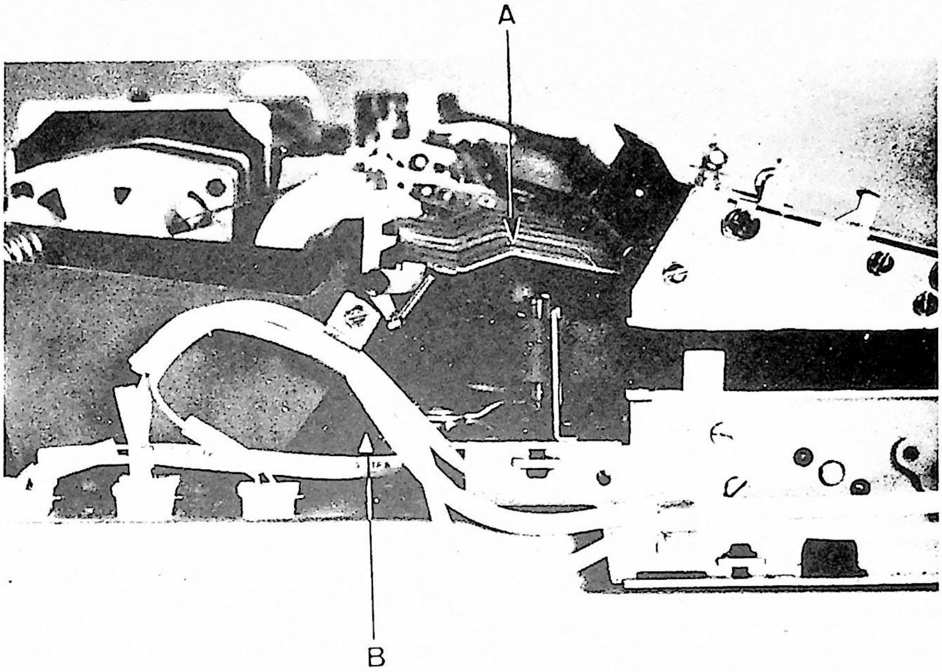


c - Back out screws 1.

d - Remove printer solenoid.

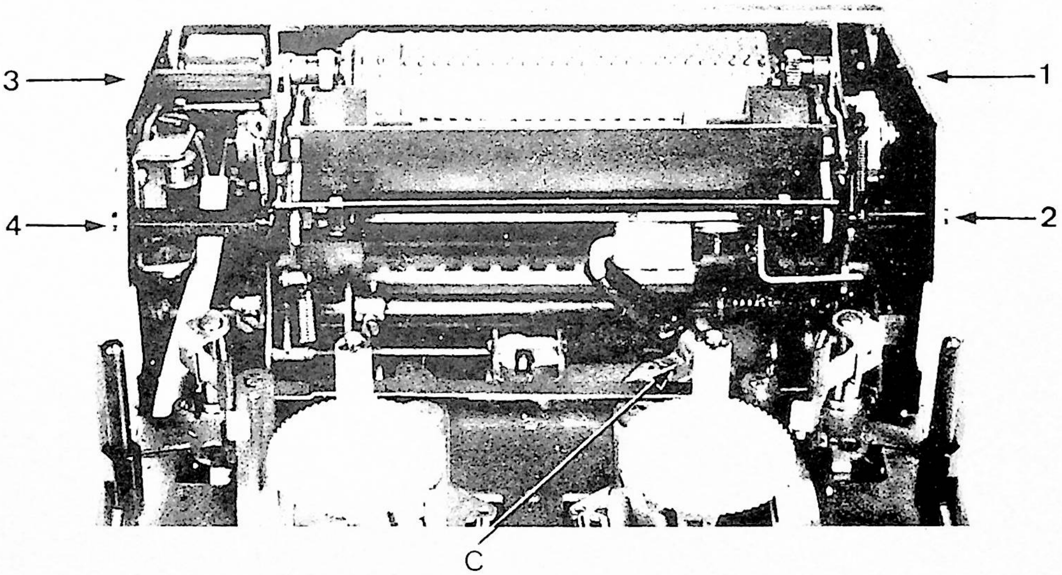
REMOVAL OF THE REPEAT LINE SPACE MICROSWITCH

a - Remove paper cutter (A4.21).



b - Lift ribbon cover A.

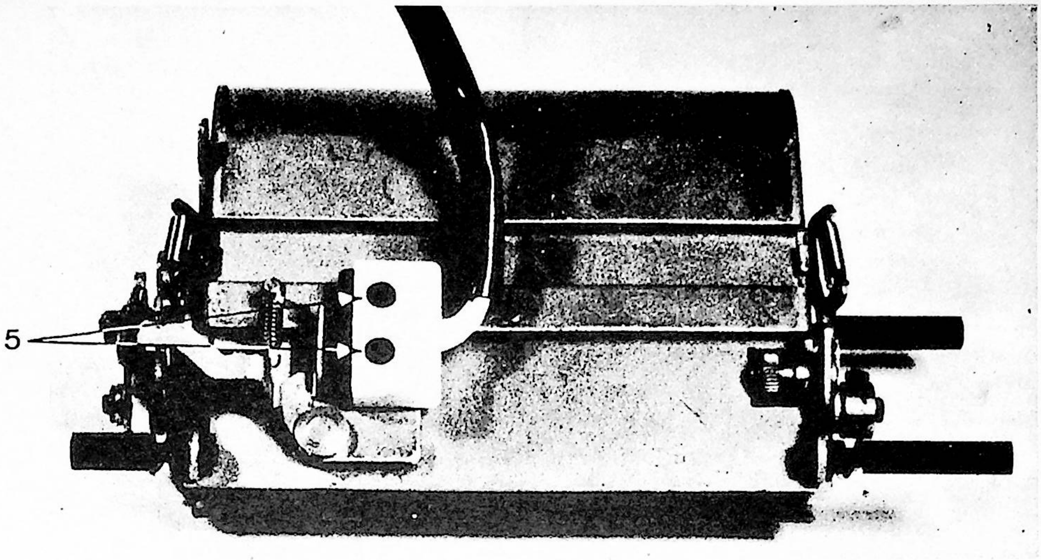
c - Disconnect from terminal strip B the wires coming from the print unit.



d - Loosen wire clamp C by loosening the corresponding screw.

e - Back out the four screws 1, 2, 3, and 4.

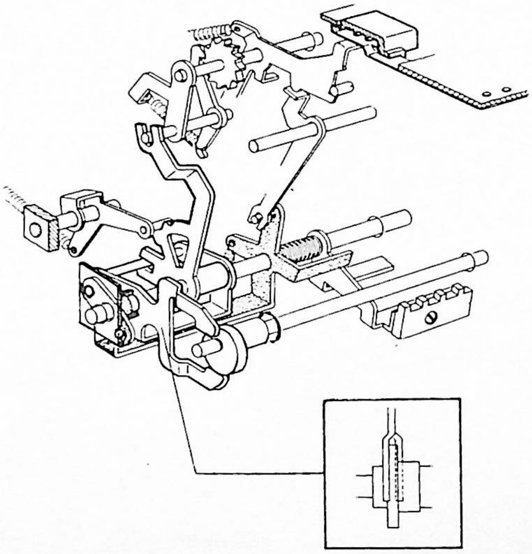
f - Extract paper driving unit from print unit.



g - Back out the two screws 5.

h - Remove microswitch.

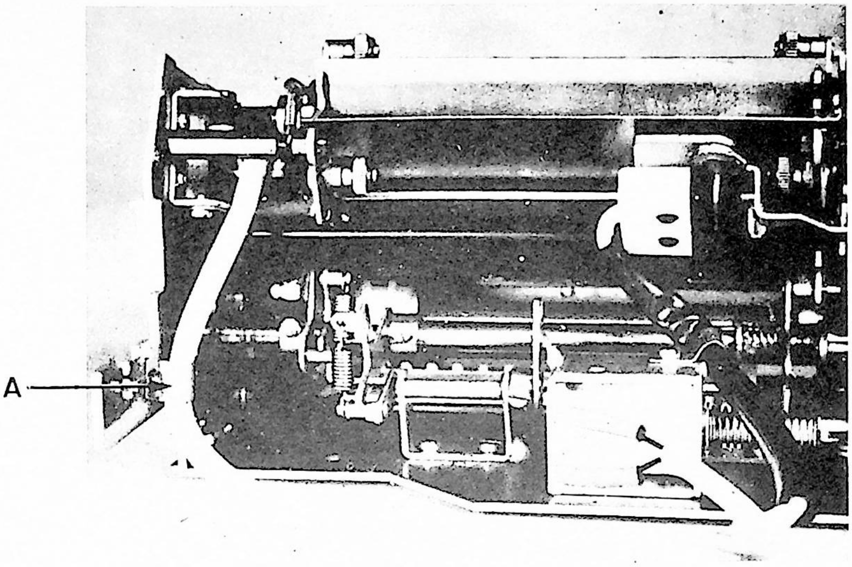
NOTE: During re-assembly, restore mechanical conditions indicated in figure.



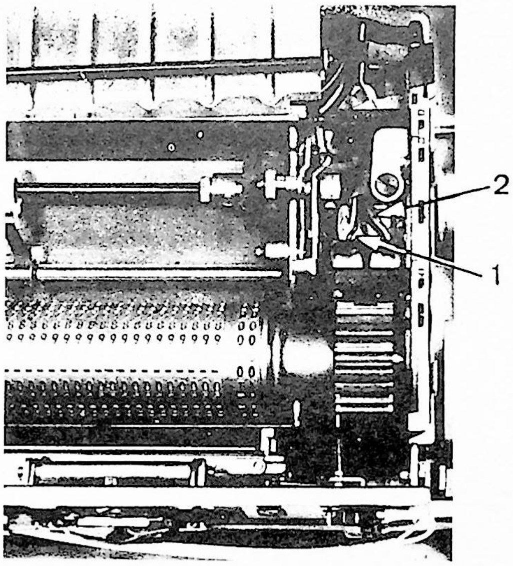
REMOVAL OF THE PICK-UP COILS

a - Remove print unit (A4.20).

b - Remove paper cutter (A4.21).



c - Loosen wire clamp A by loosening the corresponding screw.

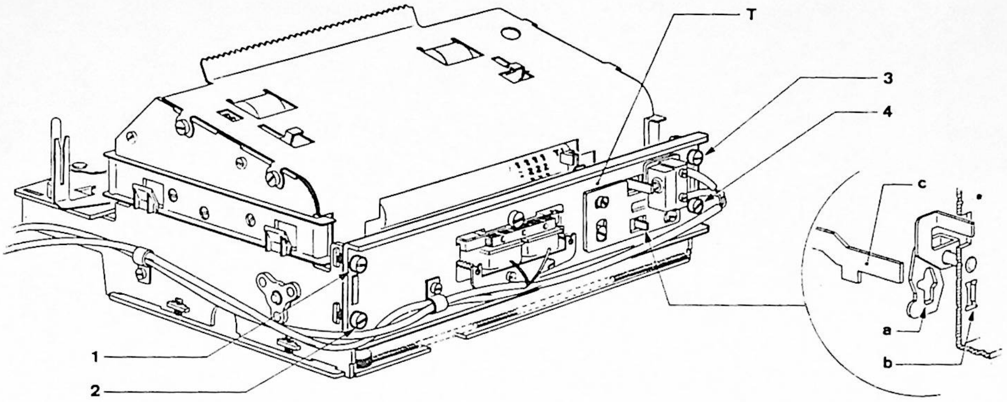


d - Back out screws 1 and 2.

e - Remove pick-up coils.

NOTE: Be careful in removing the corresponding wiring.

REMOVAL OF THE AW PLATE



- Back out screws 1, 2, 3, and 4.
- Remove plate T.

NOTE: During re-assembly, insert link c into opening a and slot b.

GENERAL TEST

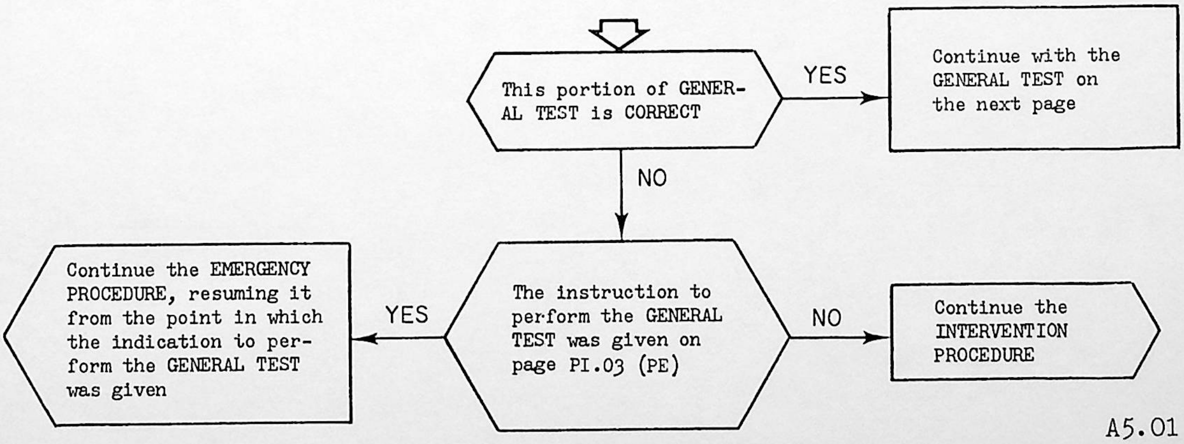
A5

GENERAL TEST

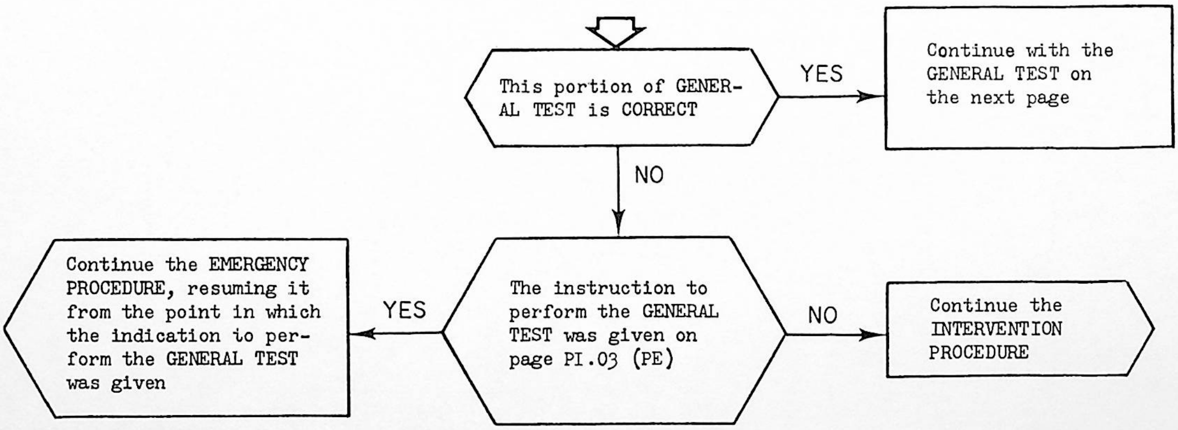
- Start from page A5.1.
- Perform the instruction indicated and check for correct data printing.
- Check the RED lamp, which is indicated in the procedure, only if lit.
- Consult the indications printed at the bottom of the page, both in case of error and in case of regular development of the test.

GENERAL TEST - LOGOS 270

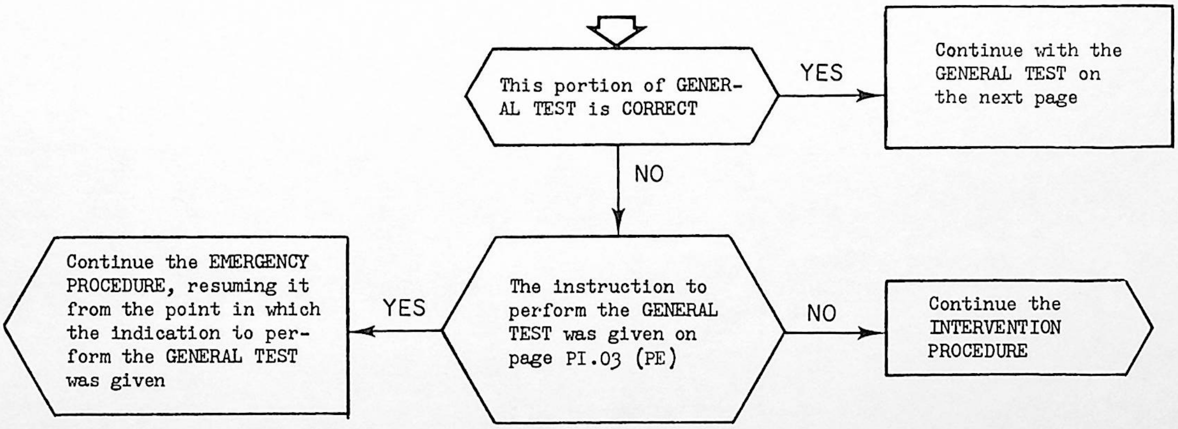
Instructions	Printout	Red Light
Decimal wheel = "3" Round off selector = "0"		
RESET		
12345678 #C	12345678 #2	
3 x	3 x	
	37037034.000 T	
+2	37037034.000 +2	
S2	49382712.000 S2	
#	37037034.000 #	
÷	49382712.000 ÷	
	0.750 T	
RESET		
1234 #	1234 #	
3 x	3 x	
	3702.000 T	
x	3 x	
	11106.000 T	
123456 #C	123456 #2	
2 xC	2 #	
	123456 x2	
	246912.000 T	
S3	0 S3	
-10 #	-10 #	
-3 ÷	-3 ÷	
	3.333 T	
#	-3 #	
-1 x	-1 x	
	3.000 T	
+3	3.000 +3	
10 #	10 #	
0003 ÷	0003 ÷	
	3.333 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "3" Round off selector = "9"		
RESET		
100 #	100 #	
-5 %	-5 %	
	-5.000 T	
	95.000 T	
5 #C	5 #2	
1000 %C	1000 #	
	5 %2	
	50.000 T	
	1050.000 T	
R	50.0009999 R	
RESET		
1234567891234567891234 %	1234567891234567891234 %	On
R	0 R	
10 ☐	10 ☐	
	100.000 T	
R	100.000 R	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions		Printout		Red Light
Decimal wheel = "0" Round off selector = "0" **RESET**				
	÷	0	÷	On
1	+1	1	+1	
	#	0	#	
100	#	100	#	
	-1	100	-1	
	#	0	#	
	#	100	#	
123	S1	-99	S1	
12	+3	12	+3	
123	-3	123	-3	
	S3	-111	S3	
	R	-0	R	
	#	-111	#	
-12	+2	-12	+2	
-123	-2	-123	-2	
	S2	111	S2	
	T1	-99	T1	
	T2	111	T2	
	T3	-111	T3	
	S1	0	S1	
	S2	0	S2	
	S3	0	S3	


This portion of GENERAL TEST is CORRECT

YES

Continue with the GENERAL TEST on the next page

NO

The instruction to perform the GENERAL TEST was given on page PI.03 (PE)

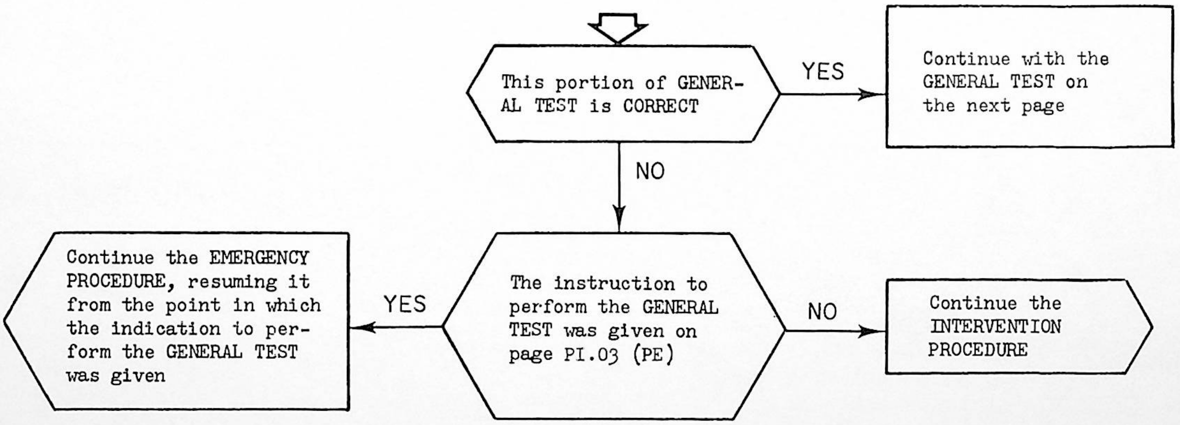
YES

Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given

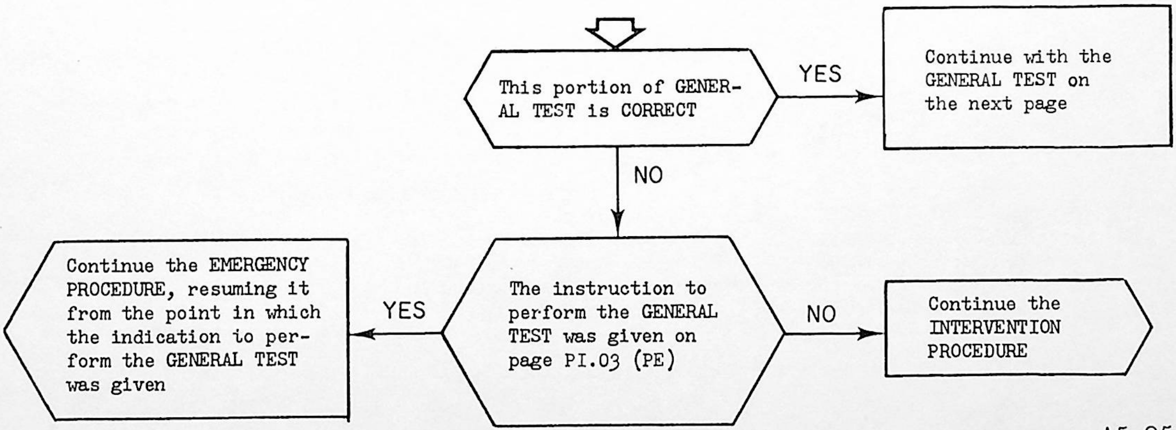
NO

Continue the INTERVENTION PROCEDURE

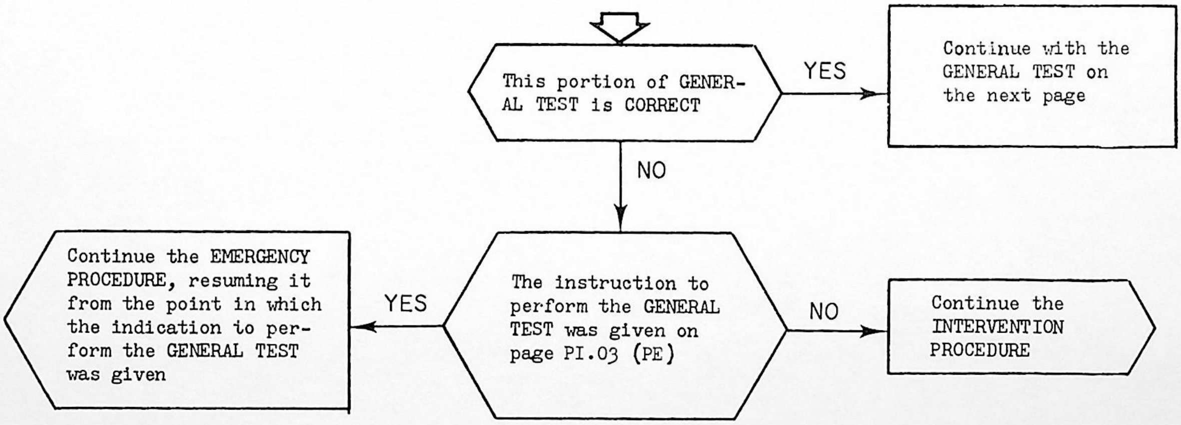
Instructions	Printout	Red Light
Decimal wheel = "0" Round off selector = "0" **RESET**		
9 √	9 √	
	3 T	
√	3 √	
	1 T	
#	2 #	
1.111 √	1.111 √	
	T	
Decimal wheel = "1" Round off selector = "0" **RESET**		
-0.002 √	-0.002 √	
	0.0 T	
-0.111 √	-0.111 √	
	0.3 T	
Decimal wheel = "1" Round off selector = "5" **RESET**		
100 #	100 #	
5.000 %	5.000 %	
	5.0 T	
	105.0 T	
#	5.0 #	
+2	5.0 +2	
123 R	5.05000 R	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions		Printout		Red Light
Decimal wheel = "2" Round off selector = "0"				
RESET				
–	#	0	#	
-3	#C	-3	#2	
-10	-2	-10	-2	
-123				
CLEAR				
1	-2	1	-2	
	S2	6.00	S2	
.00-0.123	#	-0.123	#	
123.123				
CLEAR				
123.123	#C	123.123	#2	
-1	-2	-1	-2	
	S2	124.12	S2	
-1	Q	-1	Q	
		-124.12	T	
123456789012345678901234				On
Decimal wheel = "6" Round off selector = "0"				
RESET				
841	√	841	√	
		29.000000	T	
324	√	324	√	
		18.000000	T	
6541.2	√	6541.2	√	
		80.877685	T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "10" Round off selector = "0"		
RESET		
☐	0 ☐	
	0.0000000000 T	
-5 #C	-5 #2	
-100 PC	-100 #	
	-5 P2	
	500.0000000000 T	
%C	-5 %2	
	-25.0000000000 T	
	475.0000000000 T	
R	25.000000000000 R	
#	475.0000000000 #	
111 ☐	111 ☐	
	12321.0000000000 T	
1.1		
CLEAR		
#	12321.0000000000 #	
#	12321.0000000000 #	
S3	500.0000000000 S3	
R	12321.0000000000 R	


This portion of GENERAL TEST is CORRECT

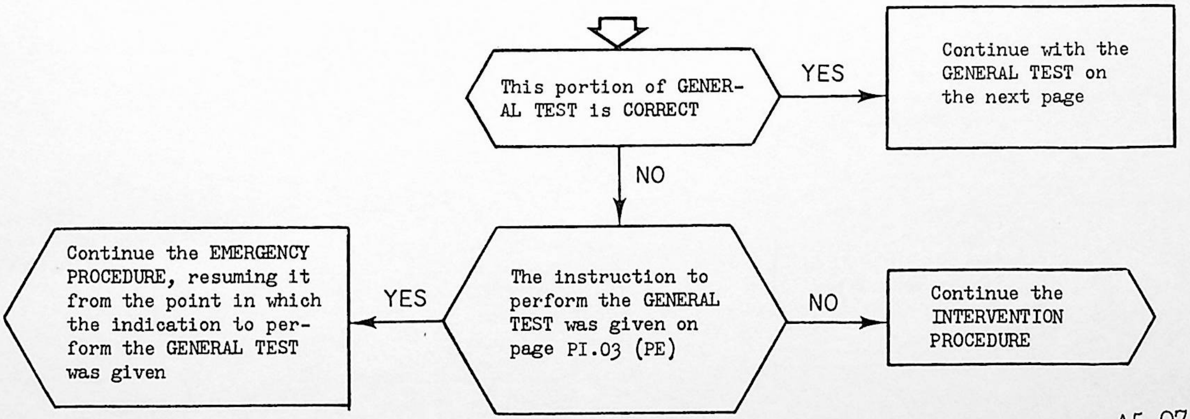
Continue with the GENERAL TEST on the next page

The instruction to perform the GENERAL TEST was given on page PI.03 (PE)

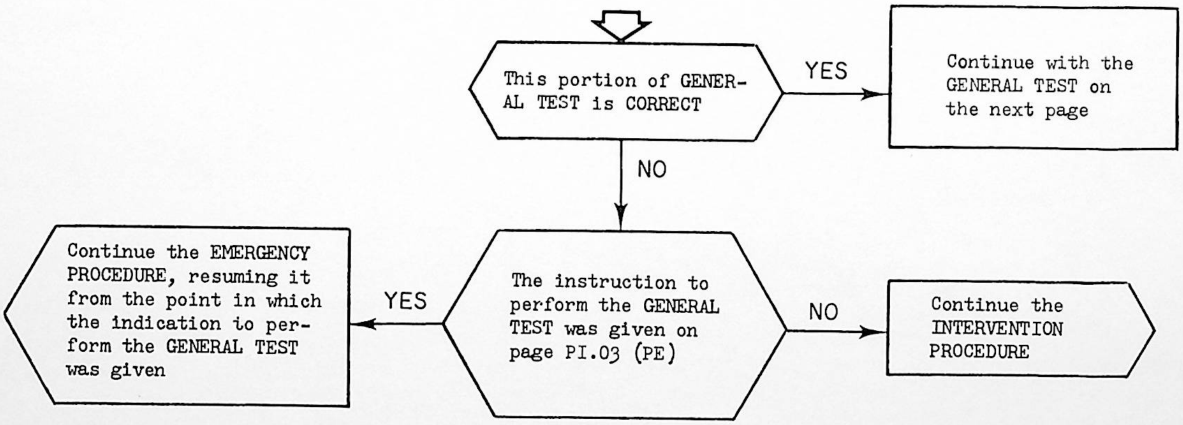
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given

Continue the INTERVENTION PROCEDURE

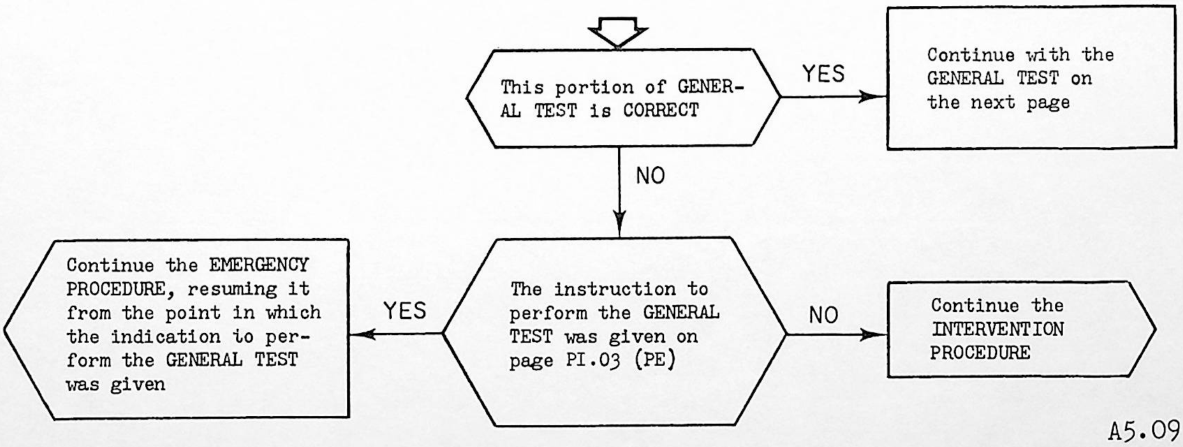
Instructions	Printout	Red Light
Decimal wheel = "10" Round off selector = "0"		
RESET		
9999.9999 #	9999.9999 #	
1 +1	1 +1	
#	9999.9999 #	
√	9999.9999 √	
	99.9999994999 T	
11 +3	11 +3	
22 +3	22 +3	
1 +2	1 +2	
2 -2	2 -2	
T3	33.0000000000 T3	
T2	-1.0000000000 T2	
S1	1.0000000000 S1	
Decimal wheel = "15" Round off selector = "0"		
RESET		
#	0 #	
#	0 #	
S1	0 S1	
S2	0 S2	
S3	0 S3	
R	0 R	
÷	0 ÷	On
÷	0 ÷	On
√	0.000000000000000 √	
	0.000000000000000 T	
S3	0 S3	
R	0.000000000000000 R	
12345678 √	12345678 √	
	3513.641700572214008 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

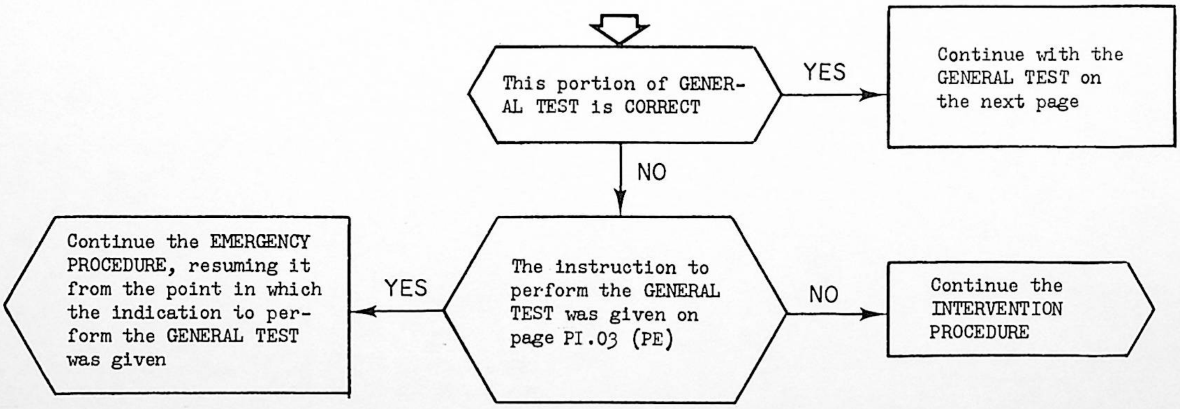
Instructions	Printout	Red Light
Decimal wheel = "15" Round off selector = "5" **RESET**		
3 ÷	3 ÷	
	0.000000000000000 T	
R	0.000000000000000 R	
123456789 x	123456789 x	On
123456 #	123456 #	
99 x	99 x	On
R	-0 R	
26.40 #	26.40 #	
0.1 ÷	0.1 ÷	
	264.000000000000000 T	
10.3 ÷	10.3 ÷	
	25.631067961165048 T	
R	0.0000000000000056 R	
√	0.0000000000000056 √	
	0.000000074833147 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

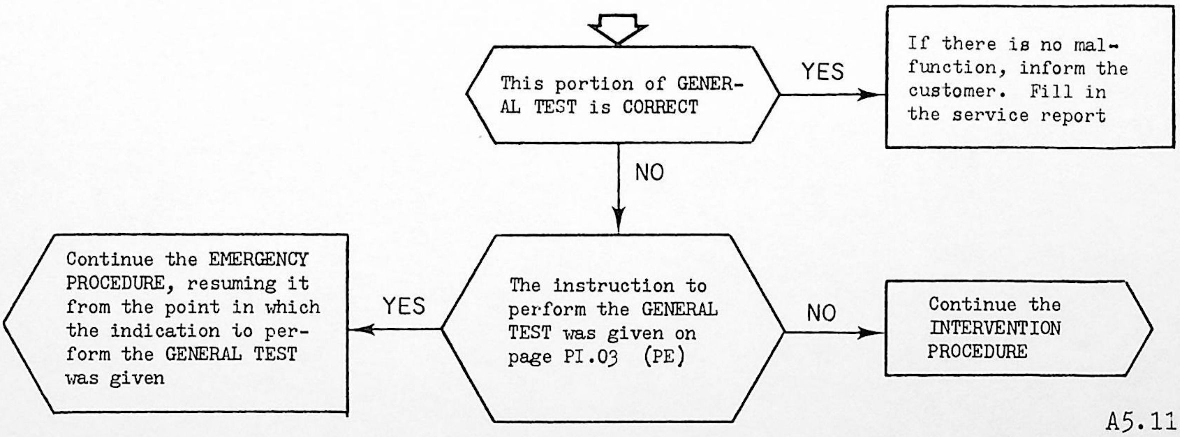
Instructions	Printout	Red Light
Decimal wheel = "15" Round off selector = "5"		
RESET		
C		
CLEAR		
123 #	123 #	
+2	123 +2	
S2	123.000000000000000 S2	
#	123 #	
10 #	10 #	
3 ÷	3 ÷	
	3.333333333333333 T	
CLEAR		
3 #	3 #	
9999999 -1	9999999 -1	
9 -1	9 -1	
S1	-10000008.000000000000000 S1	
At the end of this printout, prevent the carriage from returning to rest		
#C	-10000008.000000000000000 #2	
release the carriage. Check that the printing does not start until the carriage is returned to rest.		
1 +1	1 +1	On
#	-10000008.000000000000000 #	
R	0.000000000000001 R	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "15" Round off selector = "5"		
RESET		
123456789012345678901234 #		On
#		On
CLEAR		
Decimal wheel = "4" Round off selector = "5"		
RESET		
x	0 x	
	0.0000 T	
Decimal wheel = "8" Round off selector = "5"		
RESET		
x	0 x	
	0.00000000 T	
Decimal wheel = "0" Round off selector = "0"		
RESET		
3 #	3 #	
-2 x	-2 x	
	-6 T	
4 x	4 x	
	-24 T	
RESET		
-123 +1	-123 +1	
3 -1	3 -1	
S1	-126 S1	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "O" Round off selector = "O"		
RESET		
123 #	123 #	
CLEAR		
#	0 #	
#	123 #	
RESET		
123456789012345678901234 x		On
RESET		
123		
CLEAR		
#	0 #	
#	0 #	
RESET		
123 C		
CLEAR		
#	0 #	
#	0 #	
RESET		
123456789012345678901234		On
CLEAR		
RESET		
123 S1	0 S1	
123 S2	0 S2	
123 S3	0 S3	
Depress the paper release key to keep the pressure rollers open.		


This portion of GENERAL TEST is CORRECT
YES
If there is no malfunction, inform the customer. Fill in the service report
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

TEST PROCEDURES FOR LOGOS 245

(Provisional)

Turn the machine on and ensure that:

- Green and red lights are on.
- Print carriage does not advance.
- Hammer is not striking the character drum.
- Keyboard is locked.

Depress reset key and ensure that:

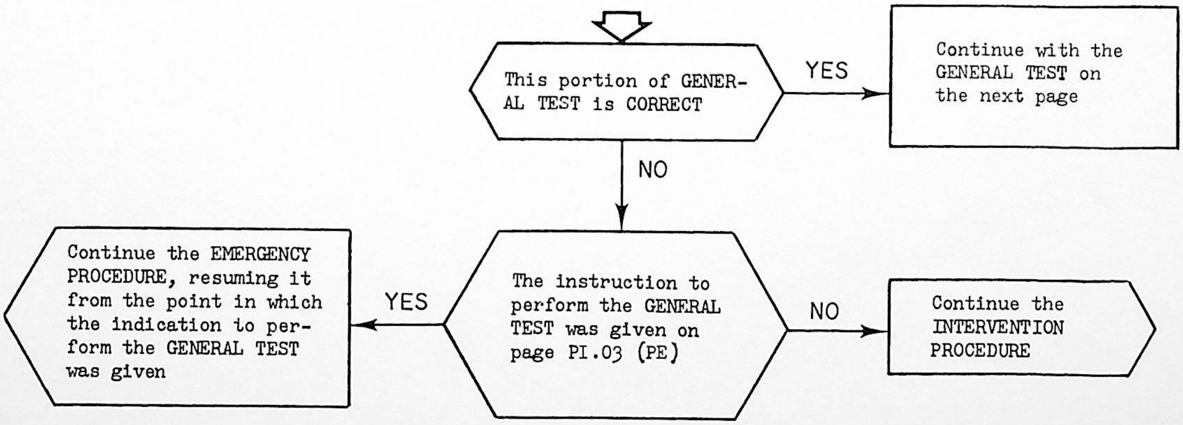
- Machine prints the sign ǂ and performs a double line space.
- Red light goes off.
- The keyboard unlocks.

NOTE: Through the first two pages of the Test Procedures, it is possible to check about 85% of the machine by checking the exactness of the printouts marked with an asterisk only.

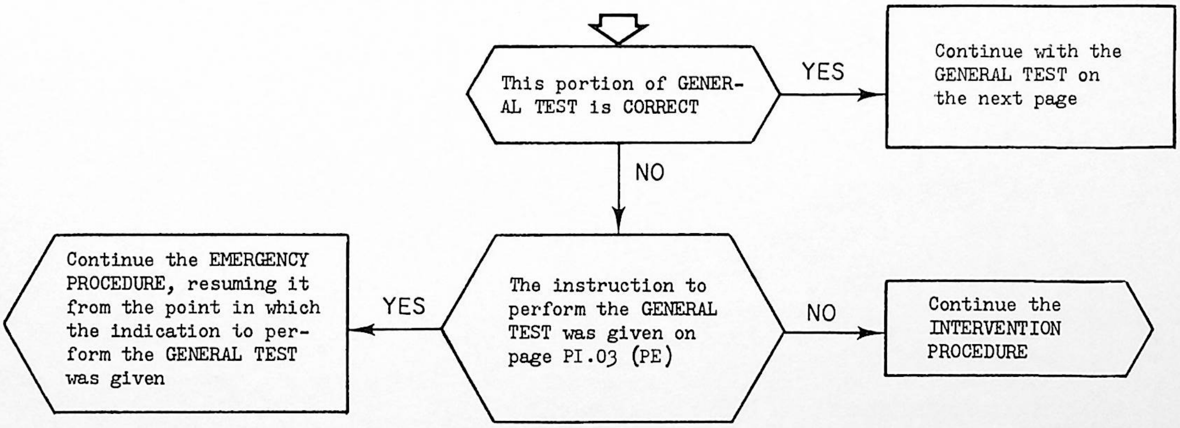
GENERAL TEST - LOGOS 245

①

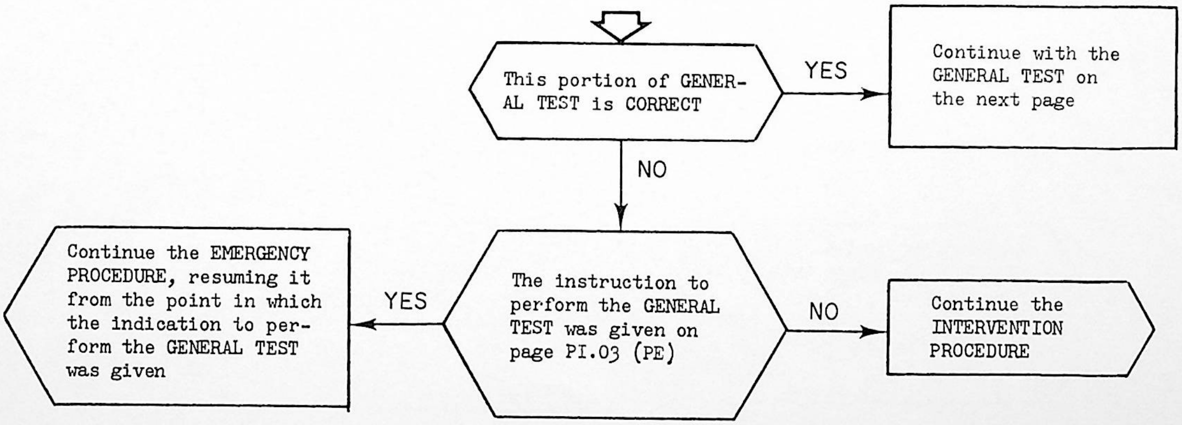
Instructions	Printout	Red Light
Reset Decimal wheel = "7" Round off selector = "0"	I	
-2 #2	-2.0000000 # 2	
123456789.1234567 #	123456789.1234567 #	
4 X	4.0000000 X	
	493827156.4938268 T	
+	493827156.4938268 +	
R	493827156.4938268 R	
+	493827156.4938268 +	
42 ÷	42.0000000 ÷	
	11757789.4403292 T	
+	11757789.4403292 +	
R	0.0000004 R	
+	0.0000004 +	
#	117757789.4403292 #	
P2	-2.0000000 P2	
	-23515578.8806584 T	
-	-23515578.8806584 -	
-1165433 Q2	-1165433.0000000 #	
	-2.0000000 Q2	
	582716.5000000 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

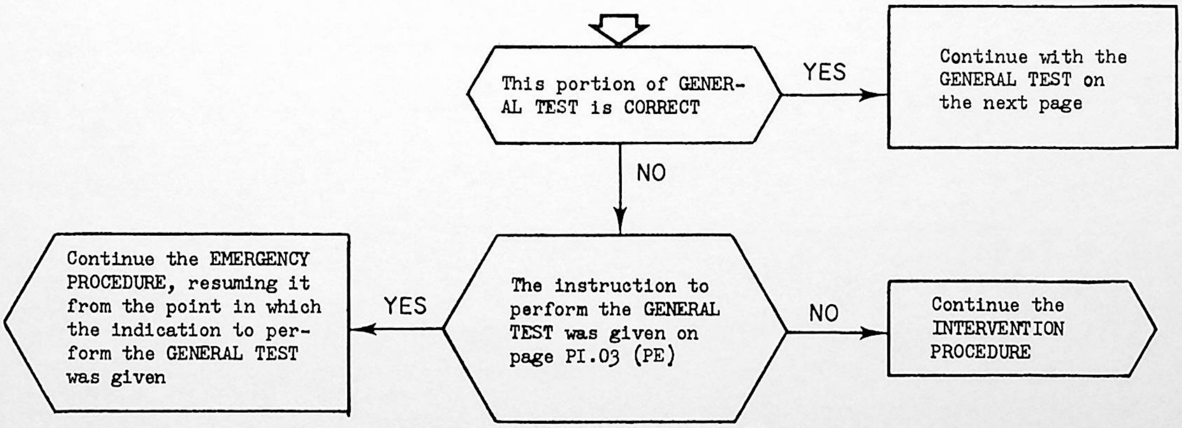
Instructions	Printout	Red Light
Round off selector = "5"		
4 # 2	4.0000000 # 2	
4000.5555555 #	4000.5555555 #	
5 %	5.0000000 %	
	200.0277778 T	
Round off selector = "9"	4200.5833333 T	
+	4200.5833333 +	
900.1111111 % 2	900.1111111 #	
	4.0000000 % 2	
	36.0044445 T	
	936.1155556 T	
+	936.1155556 +	
44.3731278 +	44.3731278 +	
S	✸ 999999999.9999999 S	
−	✸ 999999999.9999999 −	
−	✸ 999999999.9999999 −	
T	✸ -999999999.9999999 T	
S	✸ 0.0000000 S	
Only check the printouts that are marked with an asterisk		


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

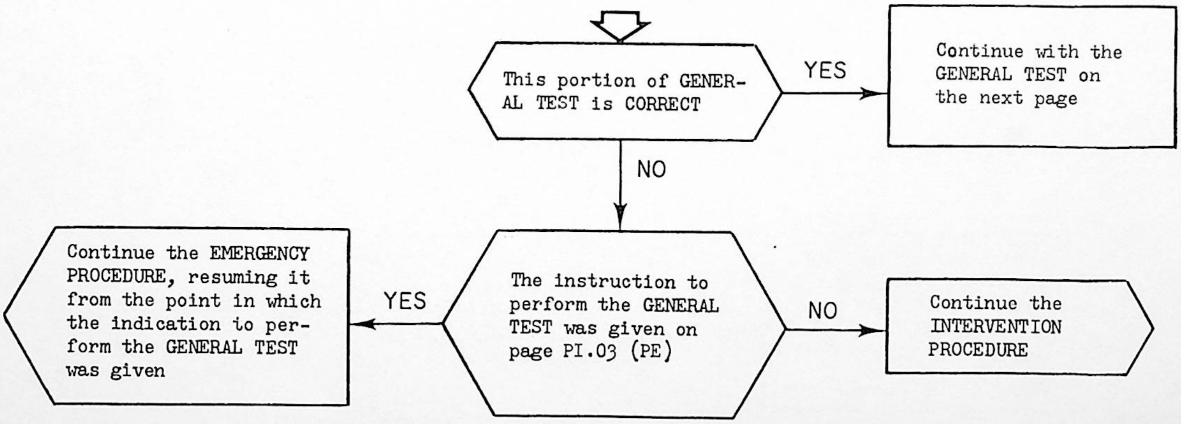
Instructions	Printout	Red Light
Reset	I	
Decimal wheel = "0"		
Round off selector = "0"		
#	0 #	
123 # 2	123 # 2	
X	0 X	
	0 T	
5 # 2	5 # 2	
3 #	3 #	
# 2	3 # 2	
100 % 2	100 #	
	3 % 2	
	3 T	
	103 T	
#	3 #	
123 -	123 -	
-123 -	-123 -	
S	-0 S	
Reset		
Decimal wheel = "1"	I	
Round off selector = "5"		
123 +	123.0 +	
456 -	456.0 -	
S	-333.0 S	
-3 X	-3.0 X	
	999.0 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

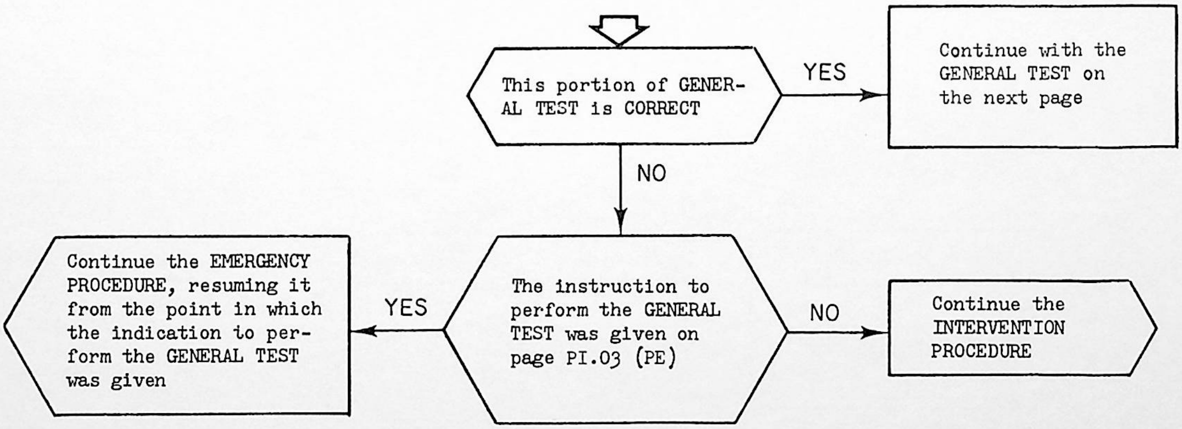
Instructions	Printout	Red Light
R	999.0 R	
4 Q	4.0 Q	
	249.7 T	
123 Clear		
#	249.7 #	
#	249.7 #	
456 #	456.0 #	
Clear		
X	249.7 X	
	113863.2 T	
123 #	123.0 #	
123 Constant Clear		
#	123.0 #	
#	123.0 #	
123.3 #	123.3 #	
3.3 X	3.3 X	
	406.9 T	
Reset Decimal wheel = "4" Round off selector = "0"	I	
#	0.0000 #	
123 -	123.0000 -	
456 +	456.0000 +	
S	333.0000 S	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

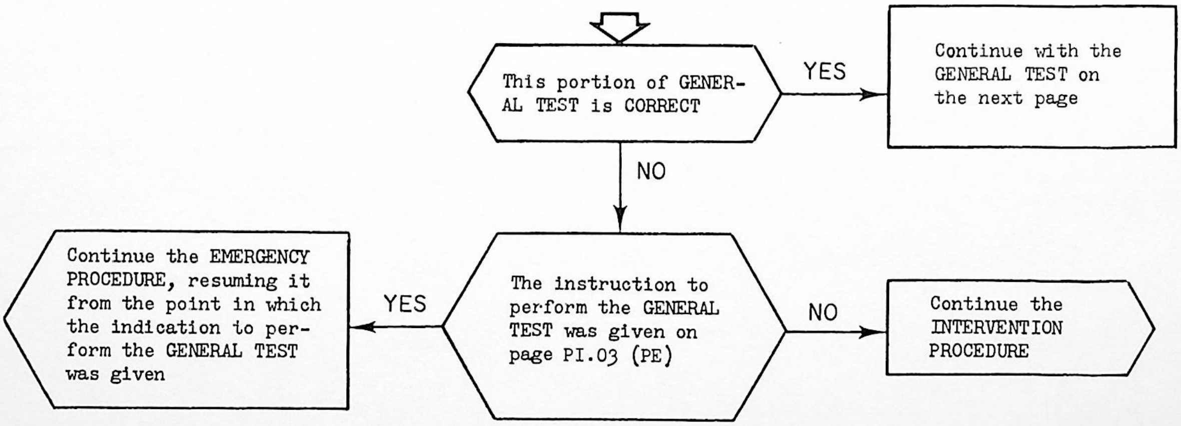
Instructions	Printout	Red Light
#	456.0000 #	
#	333.0000 #	
3 # 2	3.0000 # 2	
# 2	3.0000 # 2	
123 X 2	123.0000 #	
	3.0000 X 2	
	369.0000 T	
T	333.0000 T	
#	369.0000 #	
R	369.0000 R	
Reset Decimal wheel = "2" red Round off selector = "5"	I	
6 # 2	6.00 # 2	
456.11 #	456.11 #	
X 2	6.00 X 2	
	2737.00 T	
3 ÷	3.00 ÷	
	912.33 T	
123.44 +	123.44 +	
333.33 +	333.33 +	
S	456.77 S	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

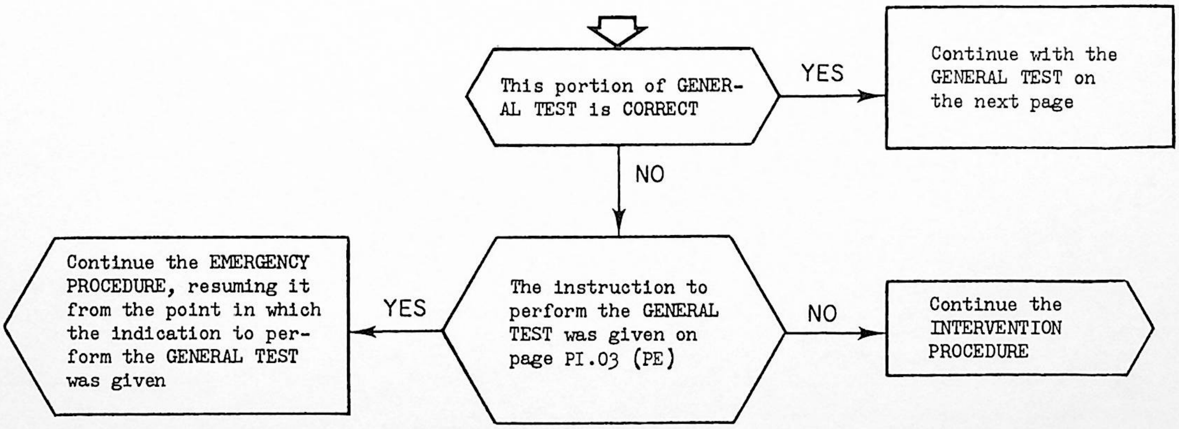
Instructions	Printout	Red Light
123 #	123.00 #	
3 X	3.00 X	
	369.00 T	
123.33 #	123.33 #	
1 X	1.00 X	
	123.00 T	
Round off selector = "9"		
100 #	100.00 #	
-3.3 %	-3.30 %	
	-4.00 T	
	96.00 T	
x	-4.00 X	
	-384.00 T	
Reset Decimal wheel = "3" red Round off selector = "9"		
100 #	100.000 #	
3.3 %	3.300 %	
	4.000 T	
	104.000 T	
123.123 #	123.123 #	
3 X	3.000 X	
	370.000 T	
	I	
Reset Decimal wheel = "3"		


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

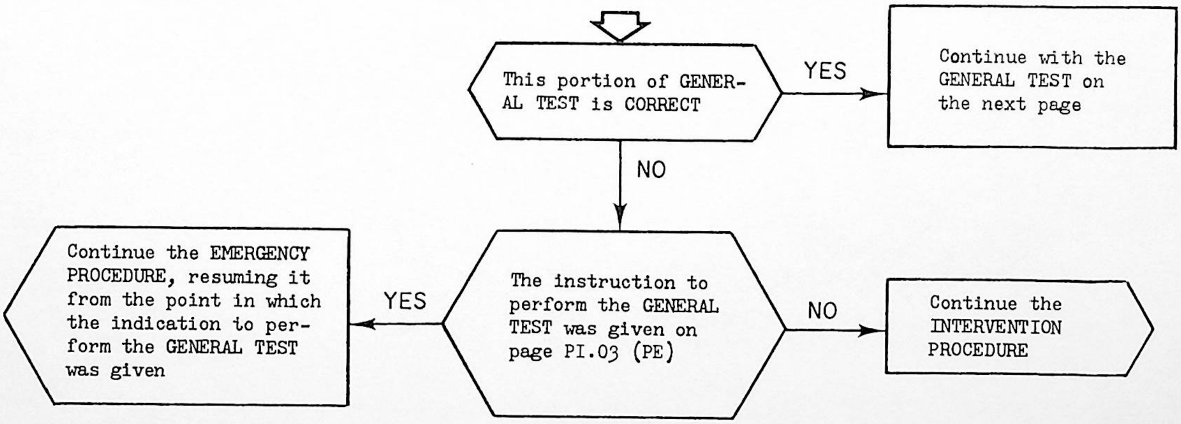
Instructions	Printout	Red Light
123 #	123.000 #	
3.3 X	3.300 X	
	405,900 T	
Reset Decimal wheel = "7" Round off selector = "0"	I	
0.2 #	0,2000000 #	
999999999 X	999999999.0000000 X	
	199999999.8000000 T	
9999999999 S	0.0000000 S	
999999999 #	999999999.0000000 #	
1 X	1.0000000 X	
	999999999.0000000 T	
Reset Decimal wheel = "7" Round off selector = "0"	I	
÷	0.0000000 ÷	On
	T	On
Clear		
-999999999.9999999 +	-99999999,9999999 +	
-11 X	-11.0000000 X	On
	T	On
Clear		
#	-11.0000000 #	
2 # 2	2,0000000 # 2	
100000000 #	100000000,0000000 #	
200000000 X	200000000,0000000 X	On
	T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

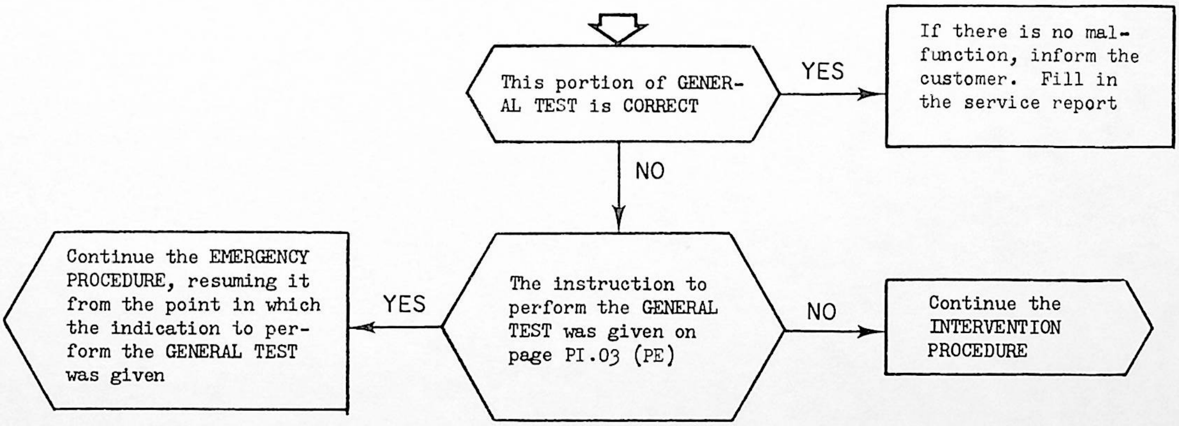
Instructions	Printout	Red Light
1 -		On
Clear		
S	-999999999.9999999 S	
X2	2.0000000 X 2	On
	T	On
Clear		
100000000 #	100000000.0000000 #	
-0.1 ÷	-0.1000000 ÷	On
	T	On
Clear		
#	-0.1000000 #	
R	0.0000000 R	
-123 P 2	-123.0000000 #	
	2.0000000 P 2	
	-246.0000000 T	
	T	On
Clear		
T	-999999999.9999999 T	
999999999 +	999999999.0000000 +	
0.01 Q	0.0100000 Q	On
	T	On
	T	On
Clear		
1 +		On
Clear		


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
	I	
Reset		
Decimal wheel = "3"		
Round off selector = "9"		
77777777777777777 #		On
789 #		On
X		On
Clear		
1000000000000 #	1000000000000,000 #	
0,01 ÷	0.010 ÷	On
	T	On
	I	
Reset		
Decimal wheel = "0" #	0 #	
Decimal wheel = "4" #	0 #	
	I	
Reset		
Decimal wheel = "0" #	0 #	
	I	
Reset		
Decimal wheel = "4" #	0.0000 #	
Decimal wheel = "2" red #	0.0000 #	
	I	
Reset		
Decimal wheel = "2" #	0.00 #	
	I	
Reset		
Decimal wheel = "2" red		
Decimal wheel = "0" #	0 #	

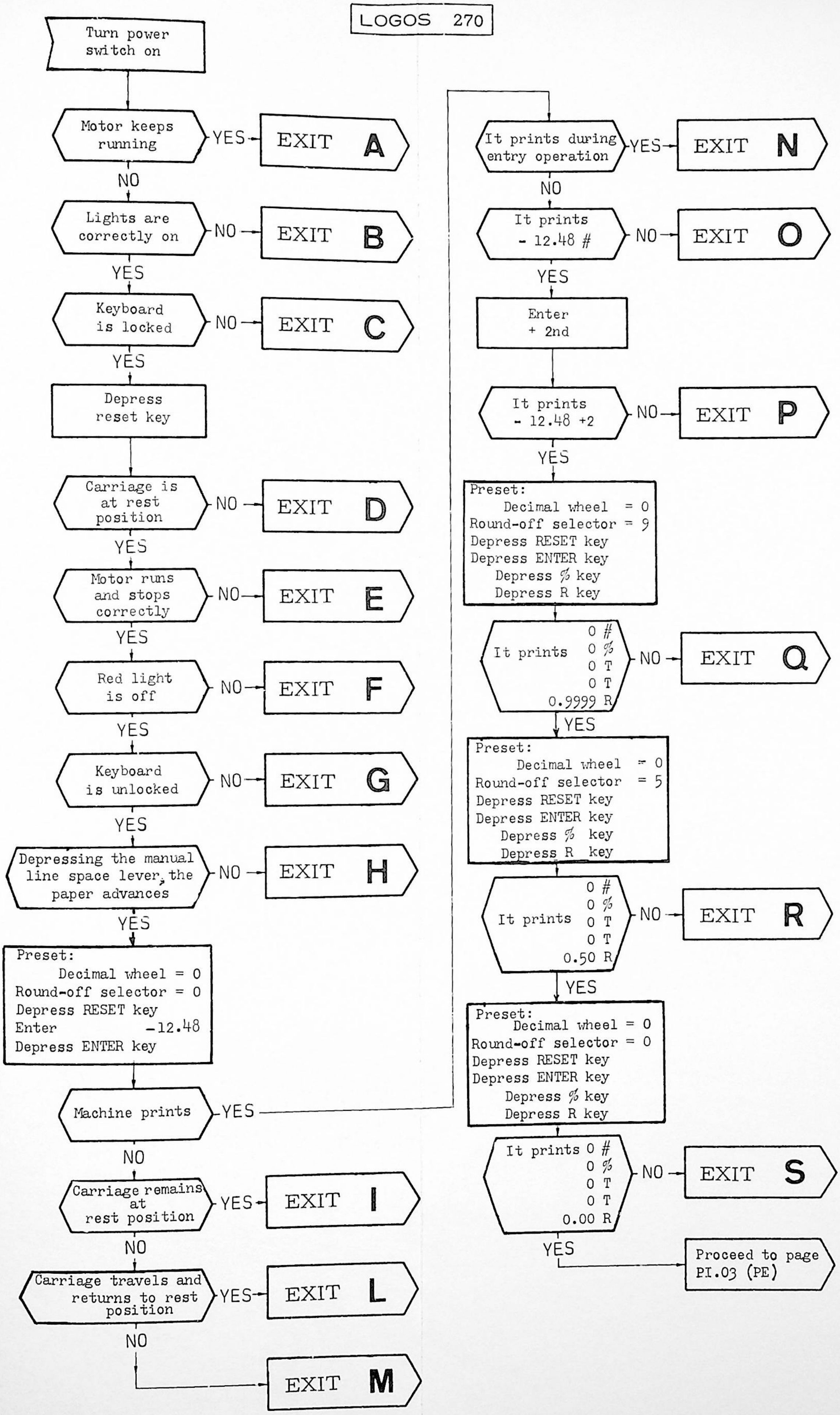

This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
YES
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
	Ɨ	
Reset Decimal wheel = "5" #	0.00000 #	
Reset Decimal wheel = "6"		
999999999 #	999999999.000000 #	
1 X	1.000000 X	
	999999999.000000 T	
Enter X several times and ensure that the Keyboard remains locked in the following cases: - During the print - During carriage return - During the calculation		
Enter X and, while the machine is printing enter RESET. Ensure that the RESET symbol is printed and that the double interline is executed.		

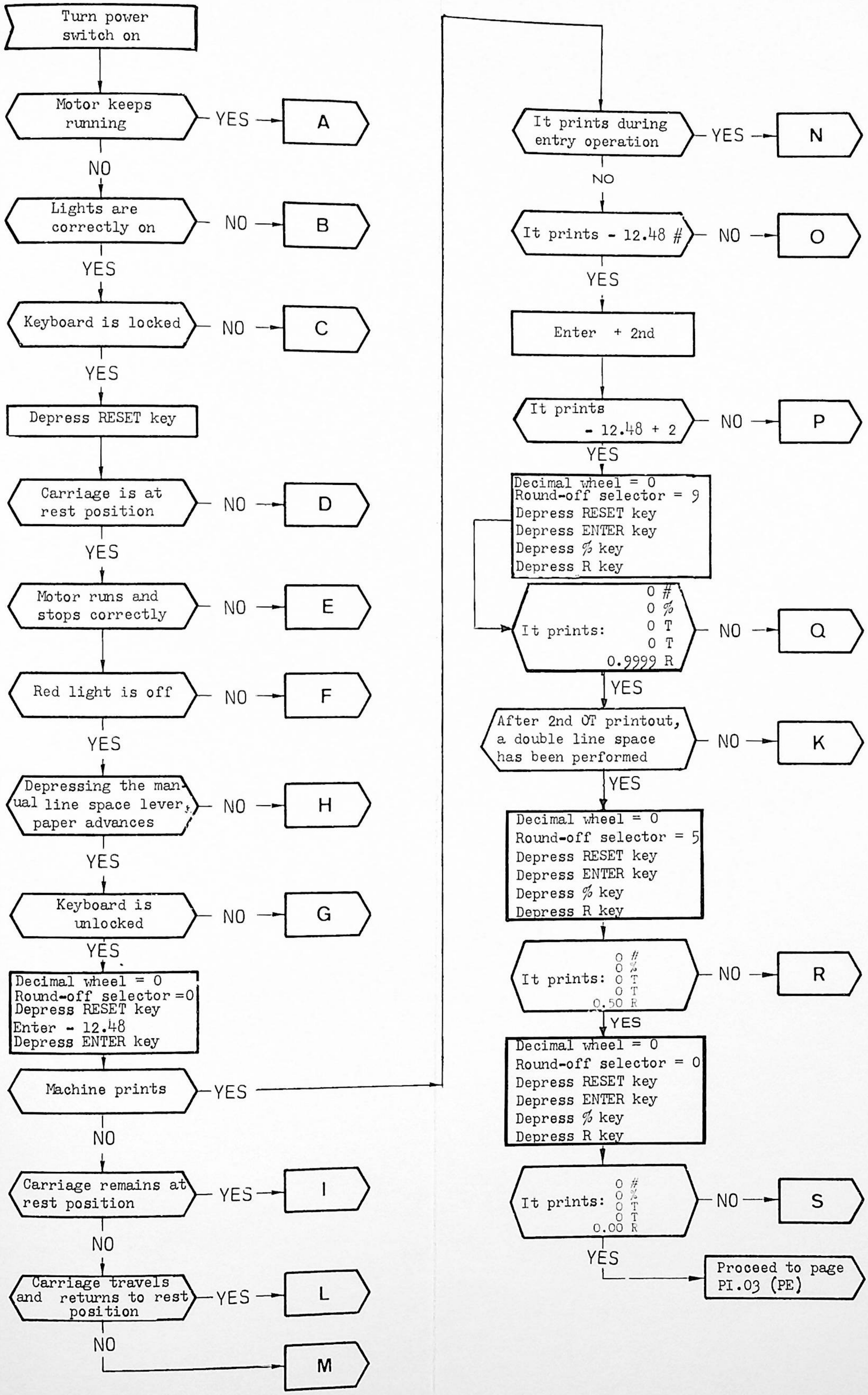

This portion of GENERAL TEST is CORRECT
YES
If there is no malfunction, inform the customer. Fill in the service report
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

DIAGNOSTIC PROGRAM

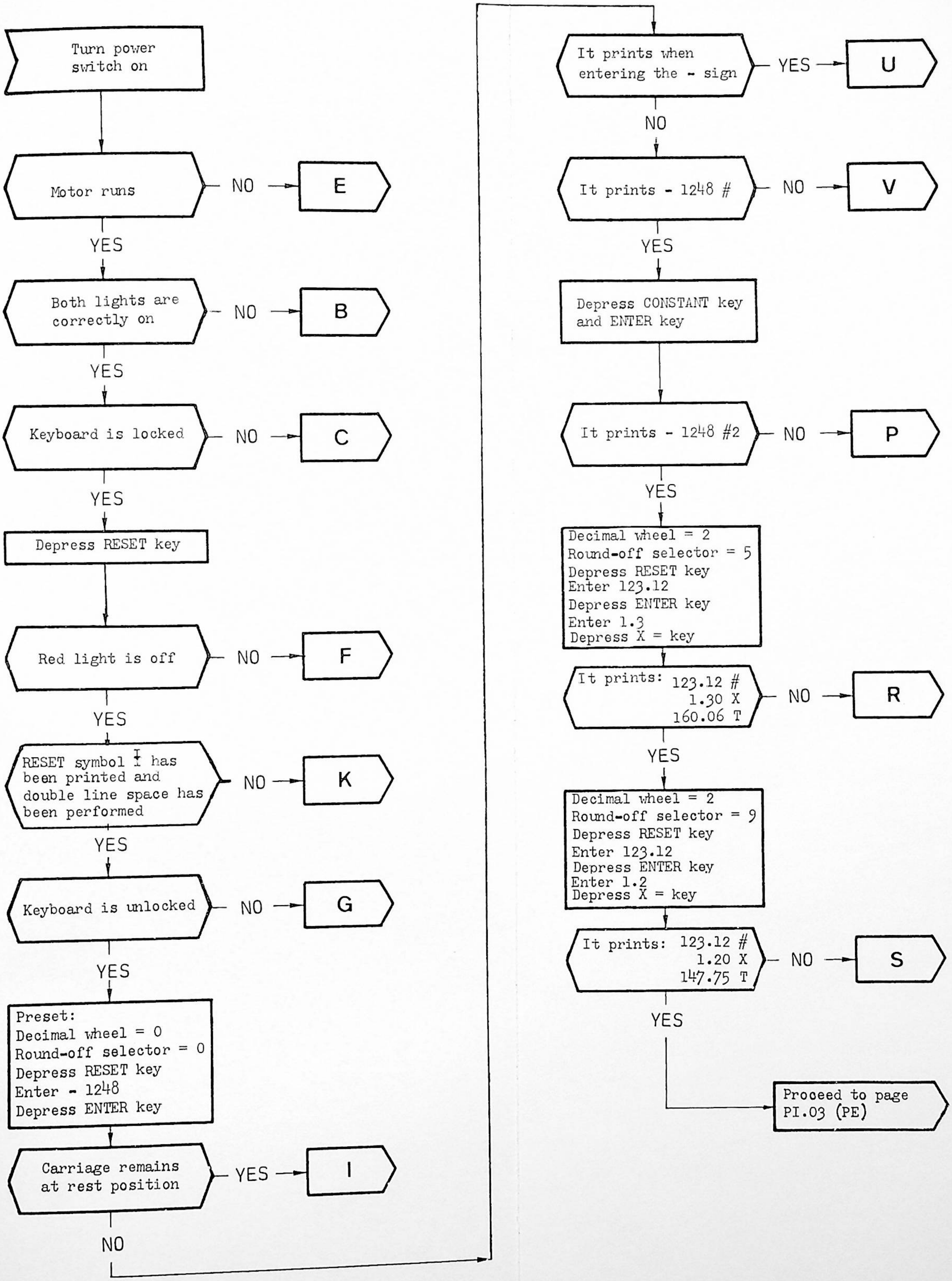
If, during the execution of the DIAGNOSTIC PROGRAM, the keyboard gets locked after a correct printing, continue the procedure on page PI.03.


Turn power switch on
Motor keeps running
YES
EXIT A
NO
Lights are correctly on
NO
EXIT B
YES
Keyboard is locked
NO
EXIT C
YES
Depress reset key
Carriage is at rest position
NO
EXIT D
YES
Motor runs and stops correctly
NO
EXIT E
YES
Red light is off
NO
EXIT F
YES
Keyboard is unlocked
NO
EXIT G
YES
Depressing the manual line space lever, the paper advances
NO
EXIT H
YES
Preset:
Decimal wheel = 0
Round-off selector = 0
Depress RESET key
Enter -12.48
Depress ENTER key
Machine prints
YES
NO
Carriage remains at rest position
YES
EXIT I
NO
Carriage travels and returns to rest position
YES
EXIT L
NO
EXIT M
It prints during entry operation
YES
EXIT N
NO
It prints - 12.48 #
NO
EXIT O
YES
Enter + 2nd
It prints - 12.48 +2
NO
EXIT P
YES
Preset:
Decimal wheel = 0
Round-off selector = 9
Depress RESET key
Depress ENTER key
Depress % key
Depress R key
It prints 0 # 0 % 0 T 0 T 0.9999 R
NO
EXIT Q
YES
Preset:
Decimal wheel = 0
Round-off selector = 5
Depress RESET key
Depress ENTER key
Depress % key
Depress R key
It prints 0 # 0 % 0 T 0 T 0.50 R
NO
EXIT R
YES
Preset:
Decimal wheel = 0
Round-off selector = 0
Depress RESET key
Depress ENTER key
Depress % key
Depress R key
It prints 0 # 0 % 0 T 0 T 0.00 R
NO
EXIT S
YES
Proceed to page PI.03 (PE)

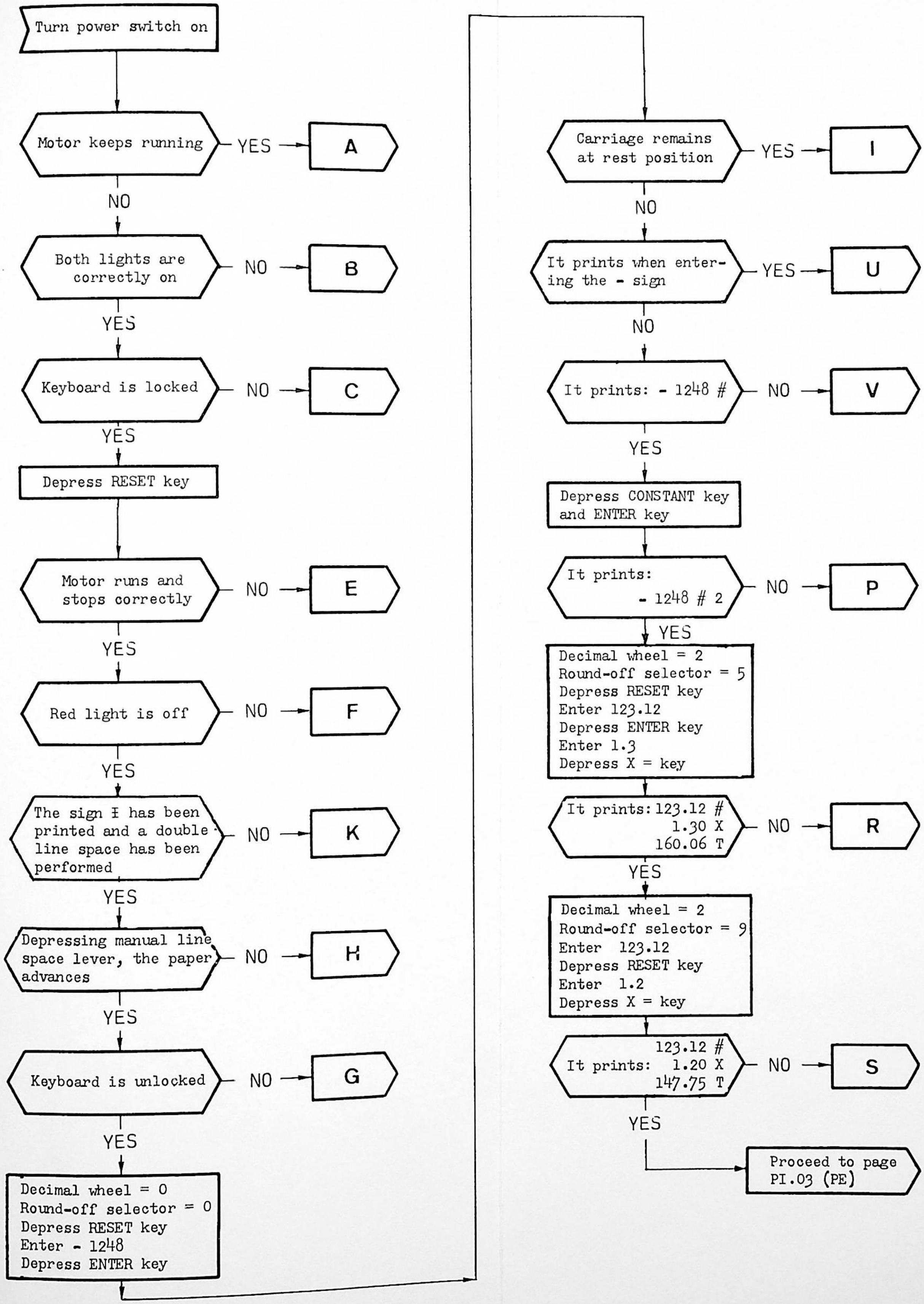
LOGOS 270 WITH DOUBLE LINE SPACE



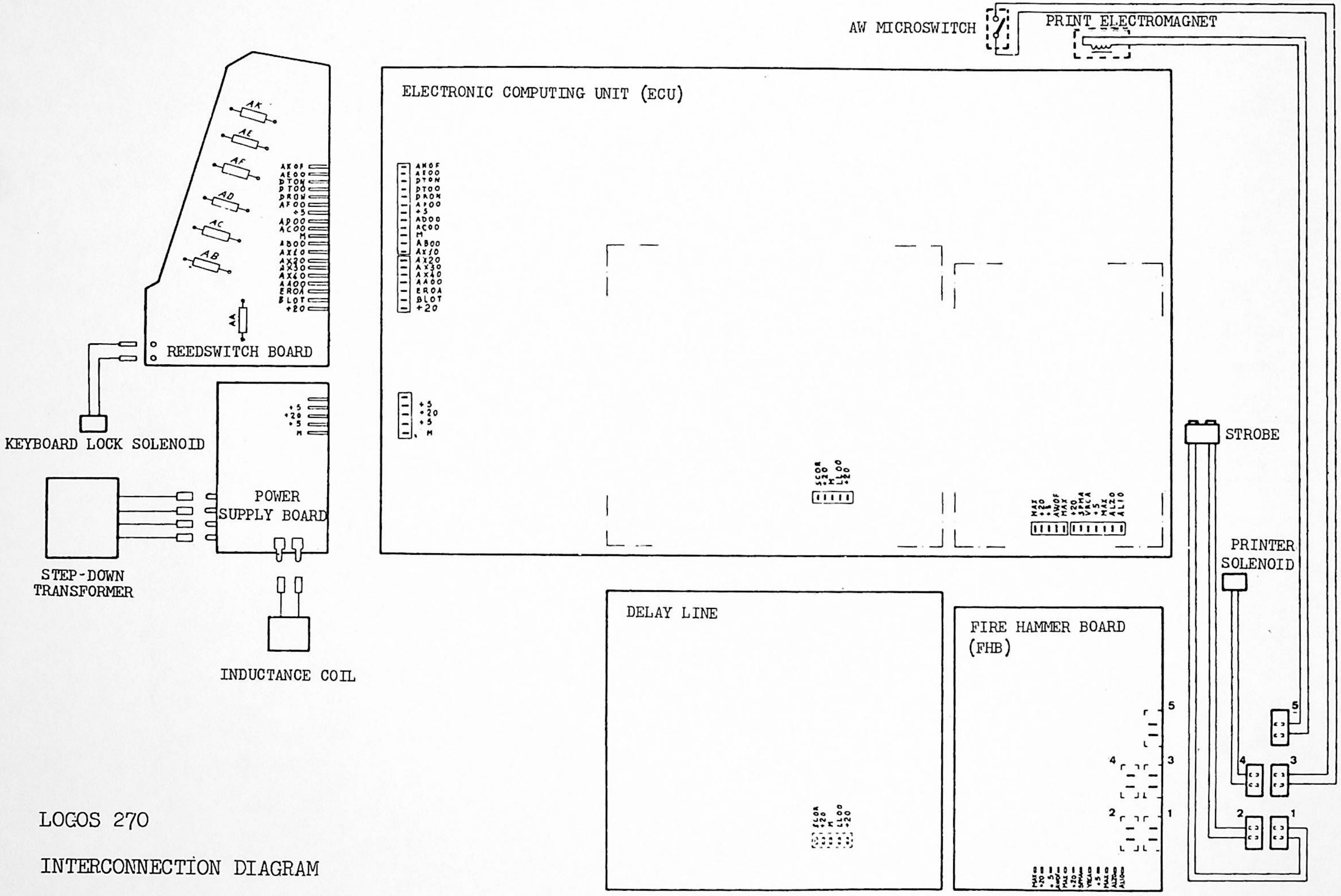
LOGOS 245 WITHOUT TIME SWITCH



LOGOS 245 WITH TIME SWITCH

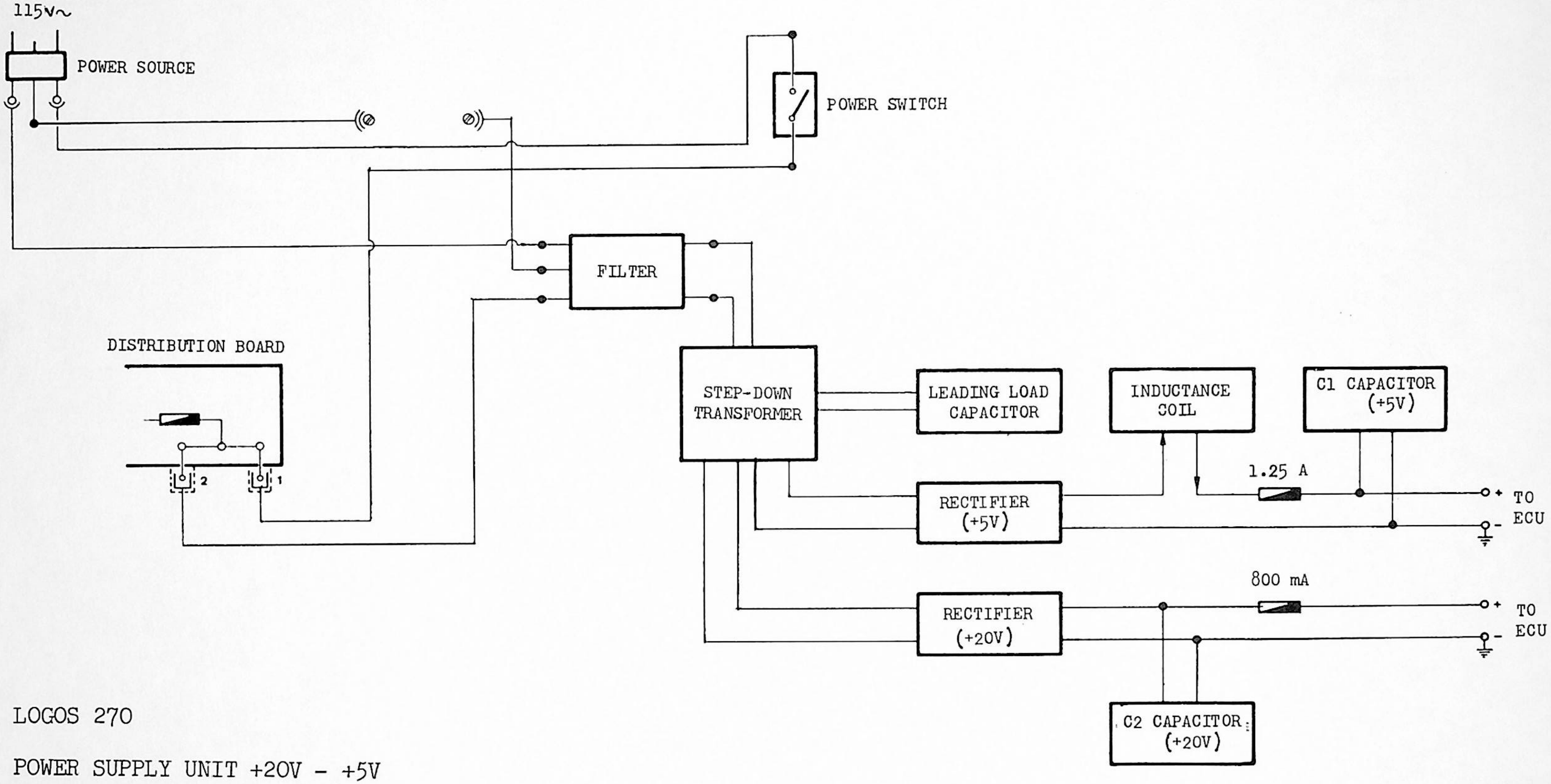


WIRING DIAGRAMS



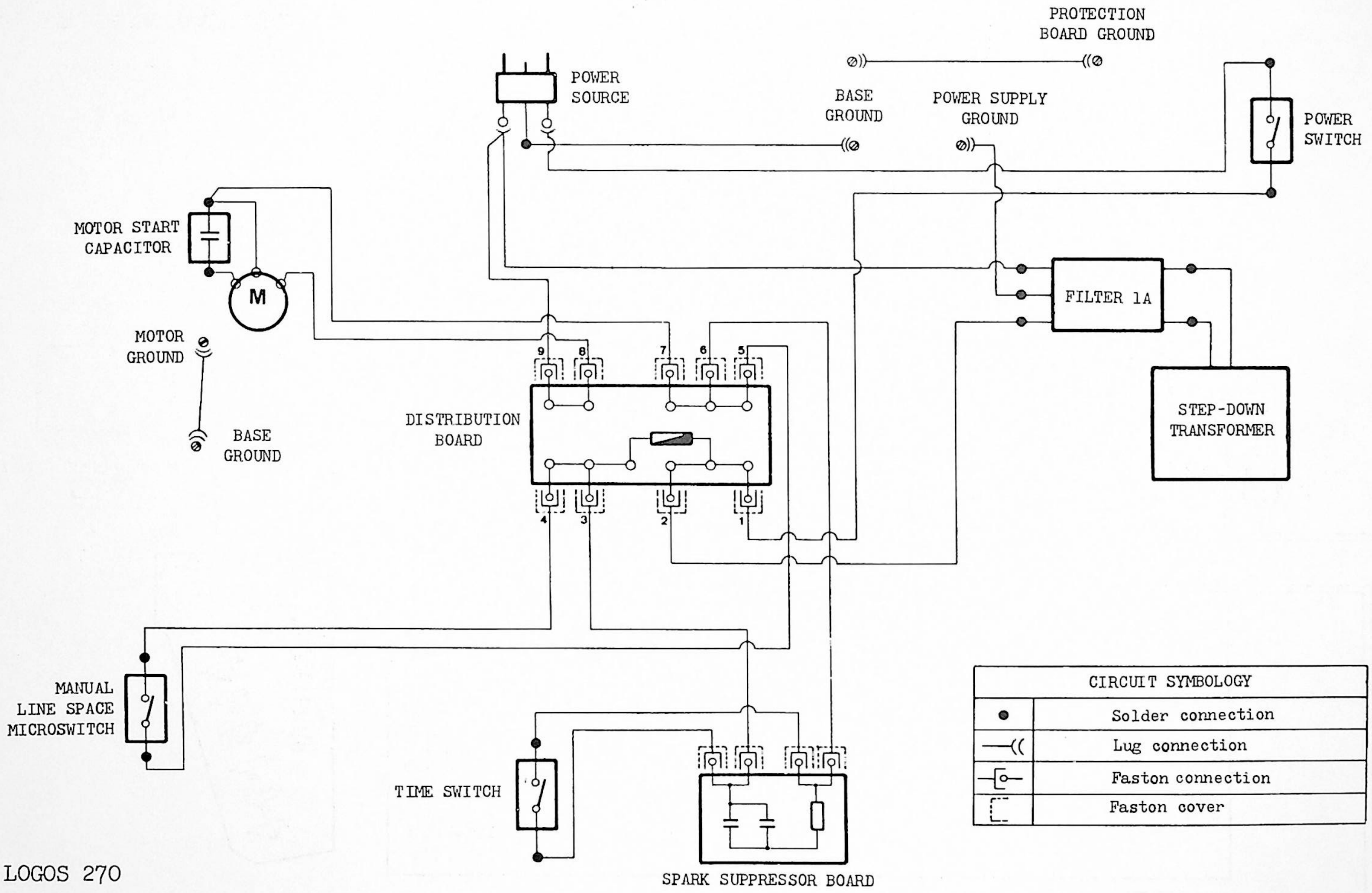
LOGOS 270

INTERCONNECTION DIAGRAM



LOGOS 270

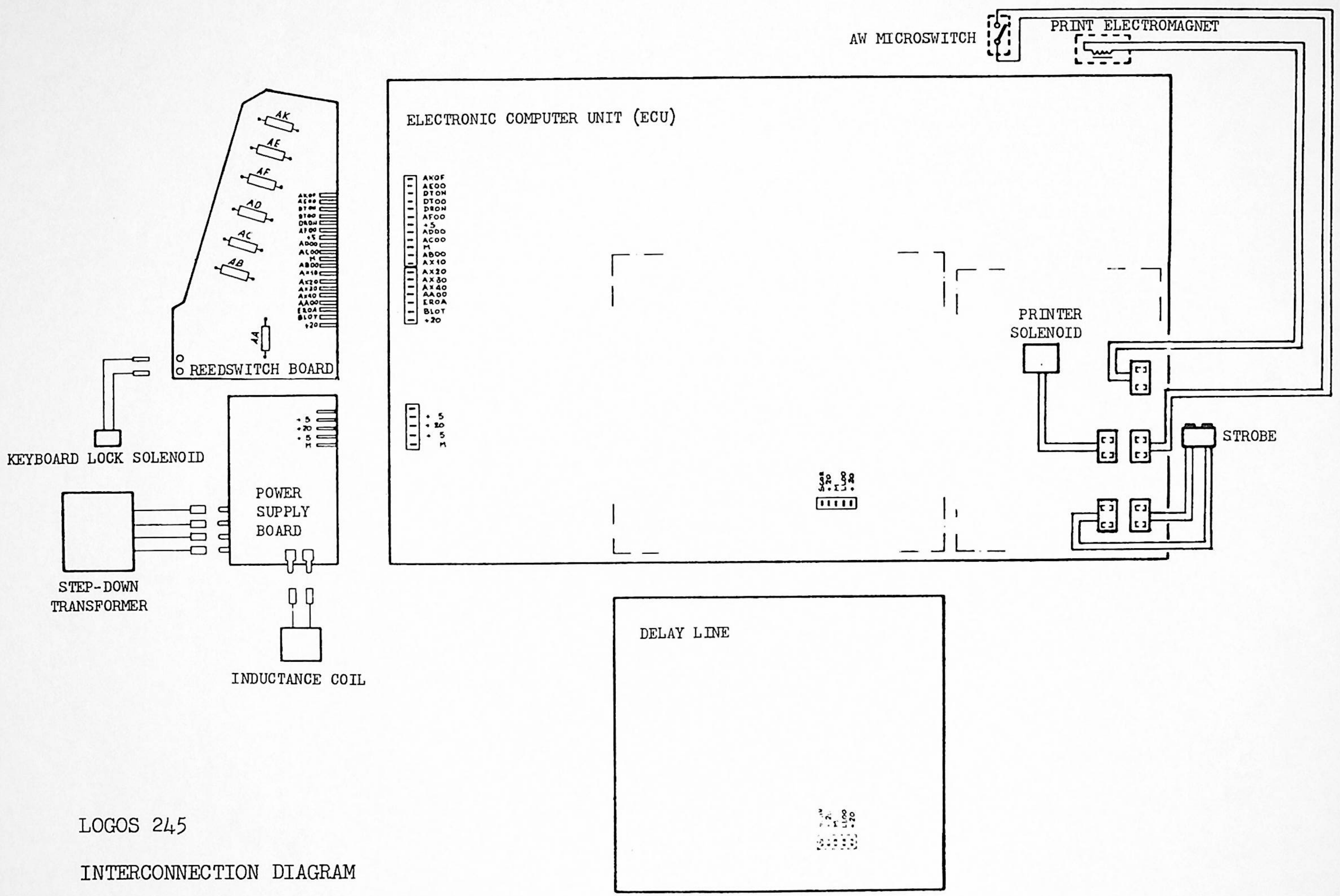
POWER SUPPLY UNIT +20V - +5V



CIRCUIT SYMBOLOGY	
●	Solder connection
—((	Lug connection
—[o—	Faston connection
[ ]	Faston cover

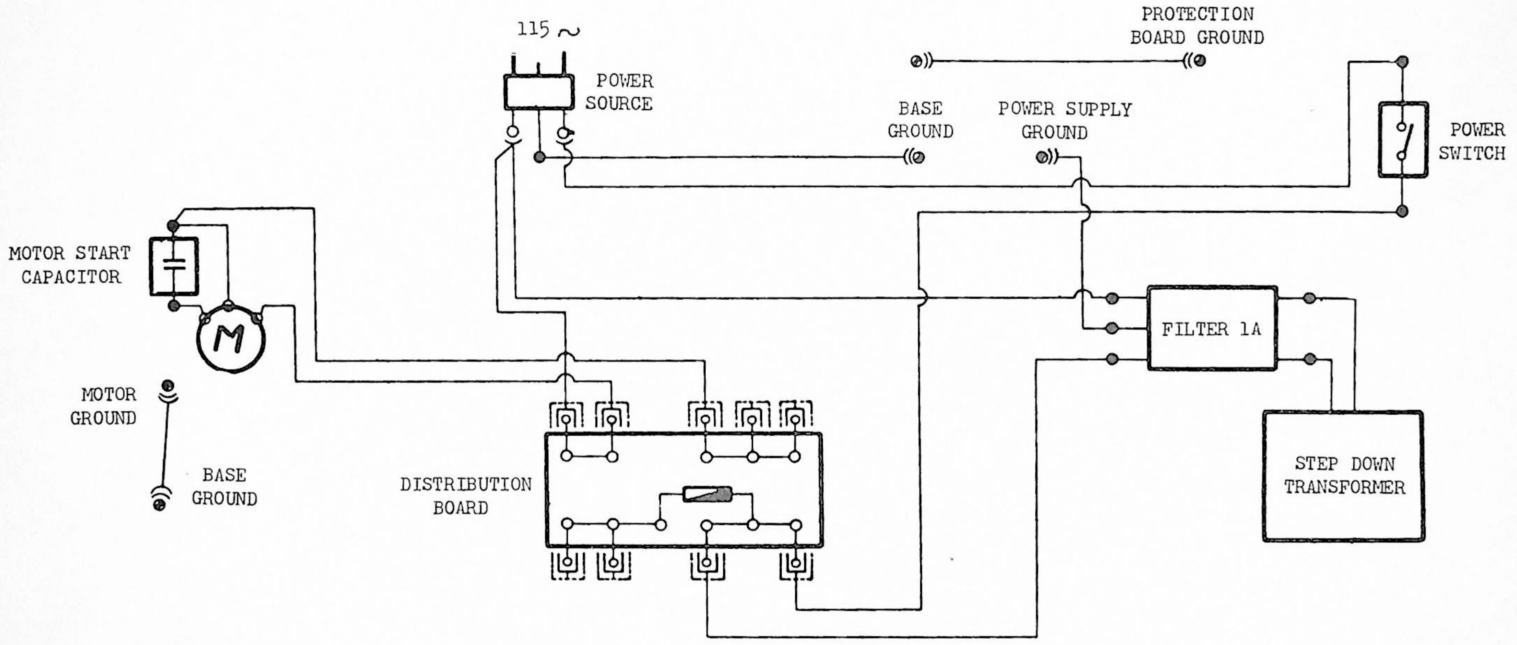
LOGOS 270

AC WIRING DIAGRAM



LOGOS 245

INTERCONNECTION DIAGRAM



CIRCUIT SYMBOLOGY	
●	Solder connection
—((	Lug connection
—[○—	Faston connection
⬚	Faston cover

LOGOS 270 AND 245 WITHOUT TIME SWITCH

AC WIRING DIAGRAM

olivetti CES	SUBJECT Class 200 Fault Finding Guide OE-45-RG Revisions	STARTING SERIAL NUMBER	TIB H-43
		———	7/17/72

1. Remove the original page(s) and insert the new/revised page(s) as indicated below:

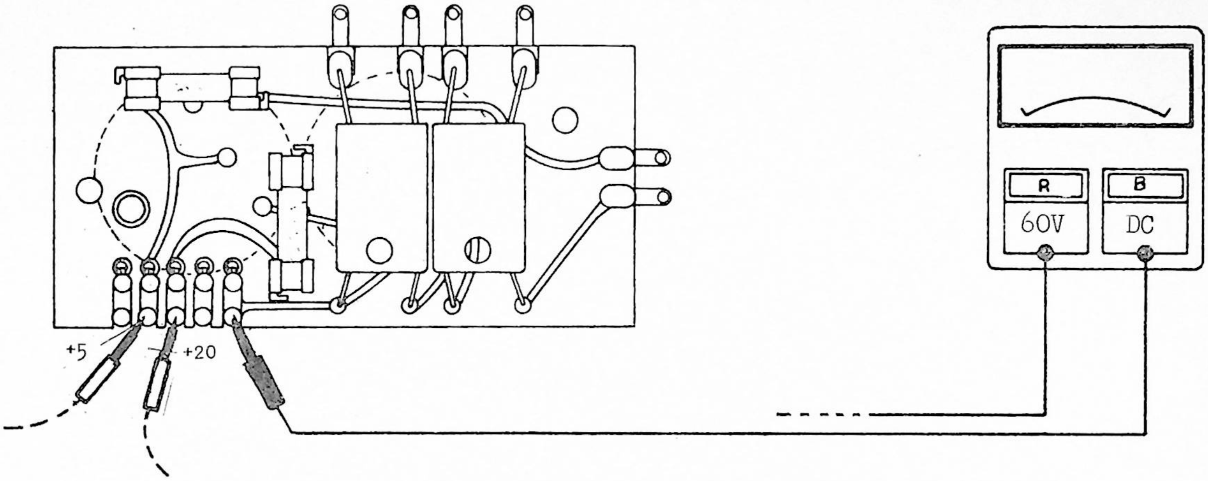
Remove page(s)	Insert new/revised page(s)	Remove page(s)	Insert new/revised page(s)
1.01/1.02	1.01/1.02	F.03/F.04	F.03/F.04
1A.03 thru 1A.05	1A.03 thru 1A.05	G.05	G.05
1B.01/1B.02	1B.01	I.01/I.02	I.01/I.02
1C.01 thru 1C.03	1C.01 thru 1C.04	I.05/I.06	I.05/I.06
1D.01/1D.02	1D.01 thru 1D.06	I.09/I.10	I.09/I.10
1E.03	1E.03 thru 1E.05	K.03/K.04	K.03/K.04
1F.01 thru 1F.03	1F.01/1F.02	———	A4.12 - a thru 4.12 - C
A1/A1.=(Blue tab)	A1/A1.=(Blue tab)		(between A4.12 & A4.13)
* A2.01 thru A2.04	———	A5.01 thru A5.10	A5.01 thru A5.10

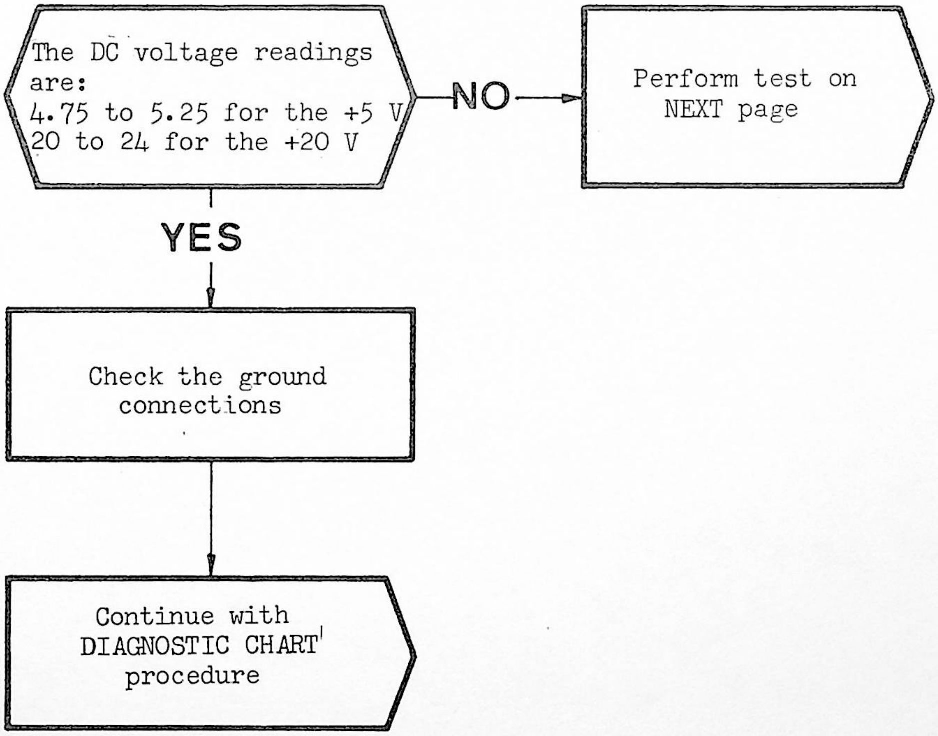
* These pages are not in all books

2. Make the following pen-and-ink changes on the pages indicated:

Page	Location	Change	
		From	To
1A.02	Meter diagram,	Ω x1	300 V
A1.01 thru A1.06	"CODE" column	Lower case letters	Capital letters (e.g, Bg00 to BG00
B.02	VOM reading is 20V -NO YES	NO YES	YES NO
L.05	PRELIMINARY OPERATIONS-1	(750 mA)	(800 mA)
EXIT P	Perform test P0003	P0003	P1003
P.01	Reading is 3VDC (Approx.) — NO YES	NO YES	YES NO
EXIT K	Mechanical Checks		
	1st line	...return mechanism	...return mechanism(A3.12)
	2nd line	...space mechanism	...space mechanism(A3.48)
	3rd line	...AW microswitch	...AW microswitch(A3.18)
K.05	Replace microswitch board A4.4	microswitch	reedswitch
A5.22	Printout - last entry	0 #	0.00 # 0.00 #
A6.07	Decimal wheel = 2 Round-off selector = 9 Enter 123.12 Depress RESET key Enter 1.2 Depress X = key	RESET	ENTER

DC VOLTAGE READINGS





The DC voltage readings are:
4.75 to 5.25 for the +5 V
20 to 24 for the +20 V

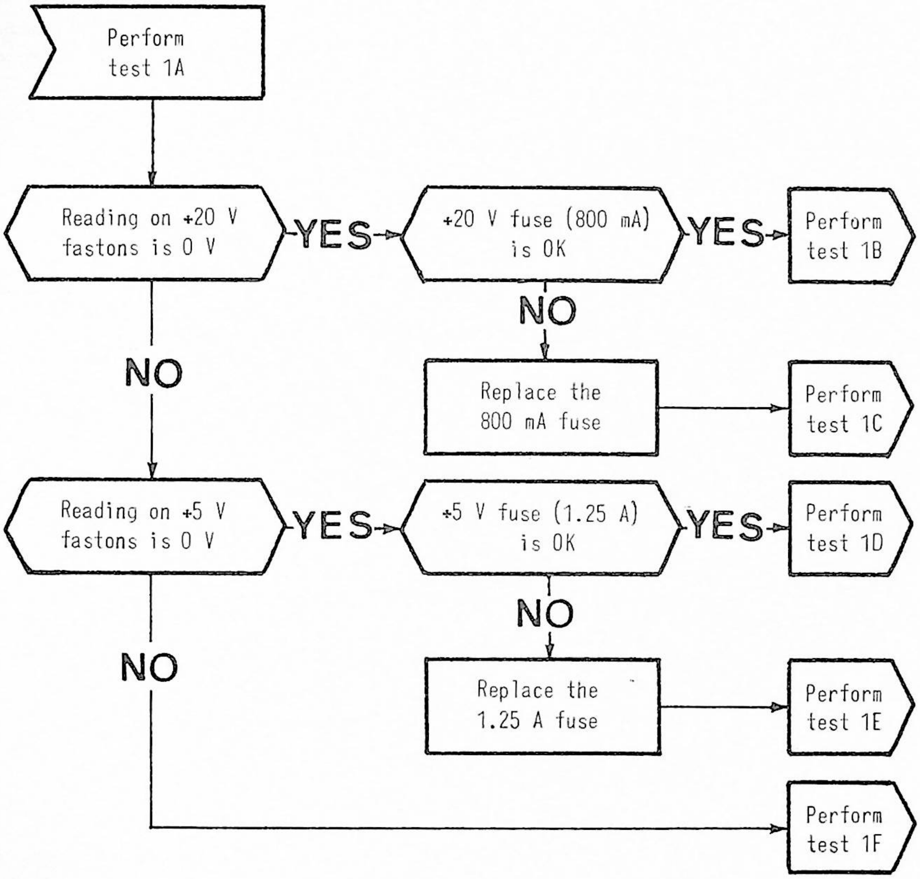
Perform test on NEXT page

Check the ground connections

Continue with DIAGNOSTIC CHART procedure

DC VOLTAGE READINGS

The DC voltages are not within the tolerance limits:



TEST 1A3

POWER SWITCH

PRELIMINARY OPERATIONS

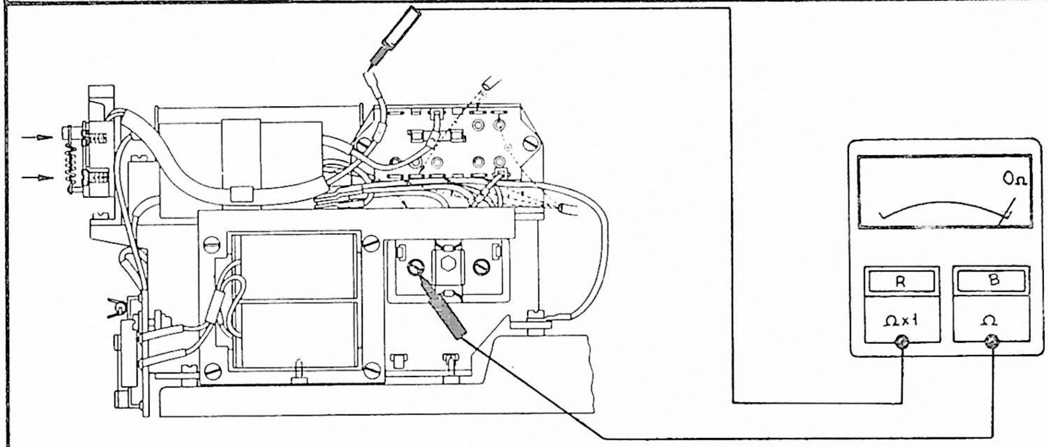
1 - Remove line cord

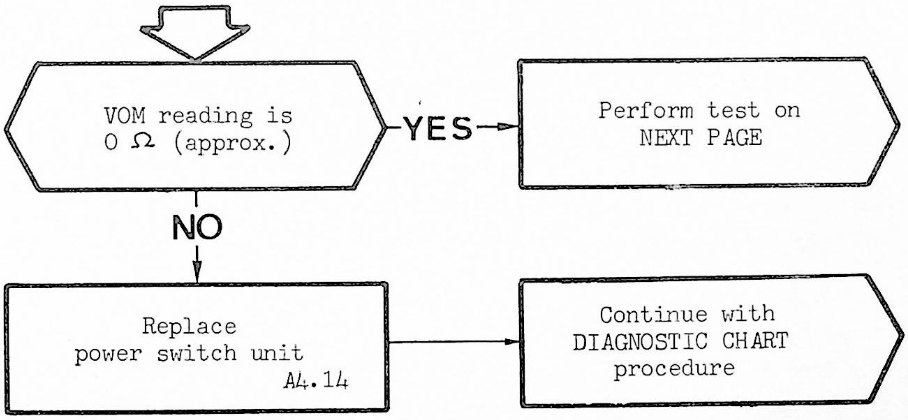
2 - Remove faston N.1 from distribution plate

3 - Set VOM for a continuity check (scale Ω x 1)

4 - Turn power switch on and make sure that the points are in contact (to obtain contact, adjust screws shown in figure)

5 - Perform test as shown in figure



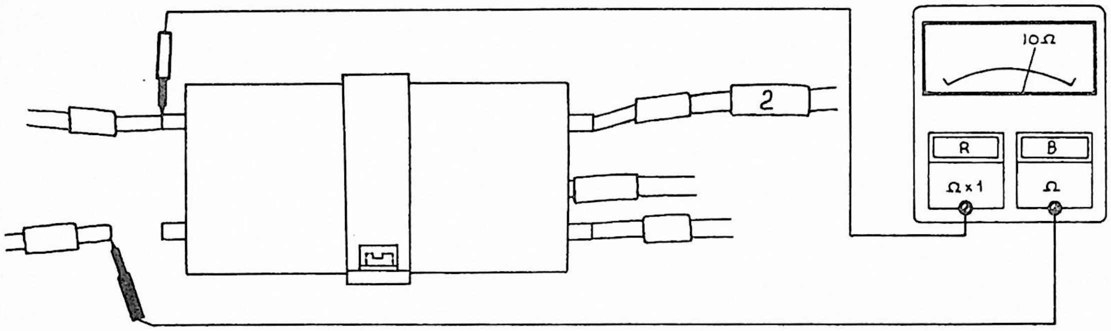

VOM reading is 0 Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace power switch unit A4.14
Continue with DIAGNOSTIC CHART procedure

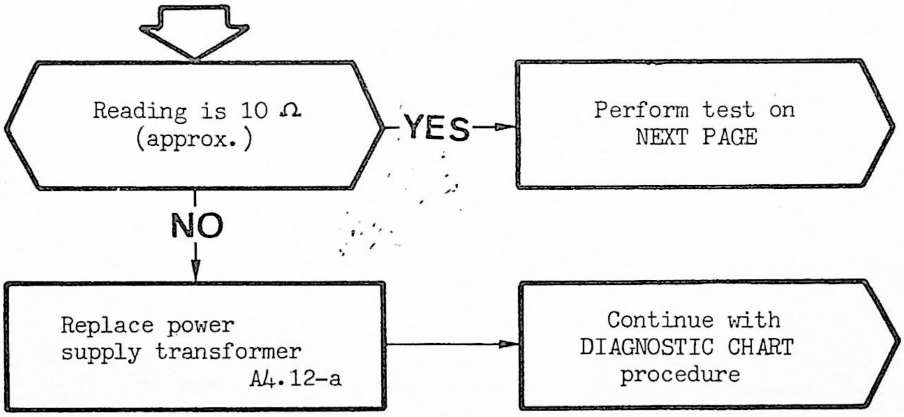
TEST
1A 4

TRANSFORMER WINDING

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove plastic insulator from filter leads
3 - Unsolder wire illustrated in figure below
4 - Set VOM for a continuity check (scale Ω x 1)
5 - Perform test as shown in figure



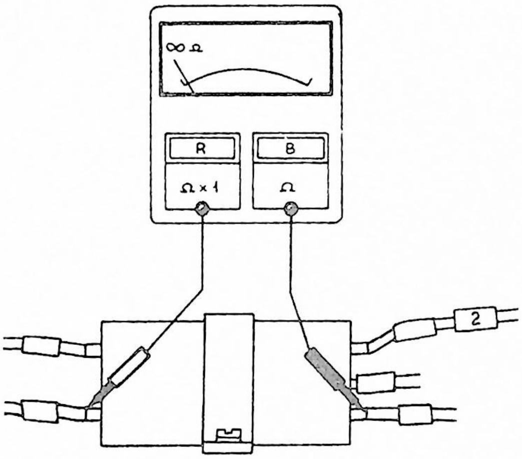

Reading is 10 Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace power supply transformer A4.12-a
Continue with DIAGNOSTIC CHART procedure

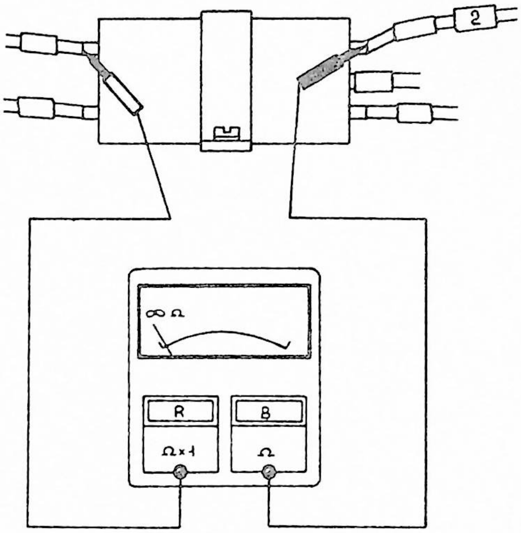
TEST 1A5

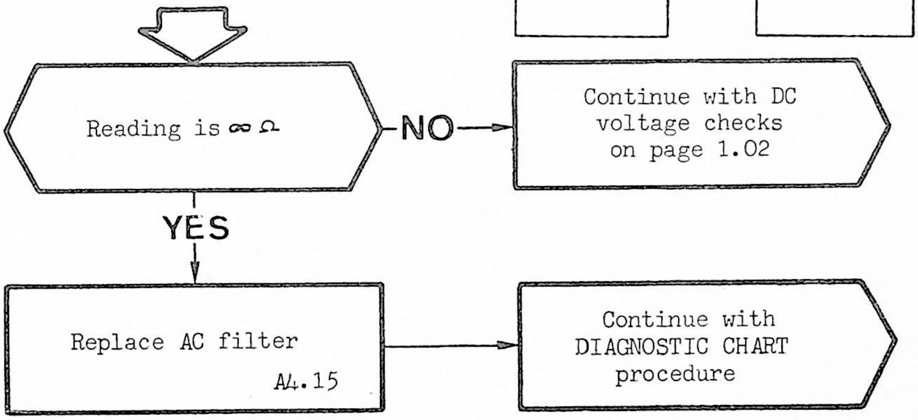
AC FILTER

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove plastic insulators from filter leads
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure







Reading is ∞ Ω

NO → Continue with DC voltage checks on page 1.02

YES → Replace AC filter A4.15 → Continue with DIAGNOSTIC CHART procedure

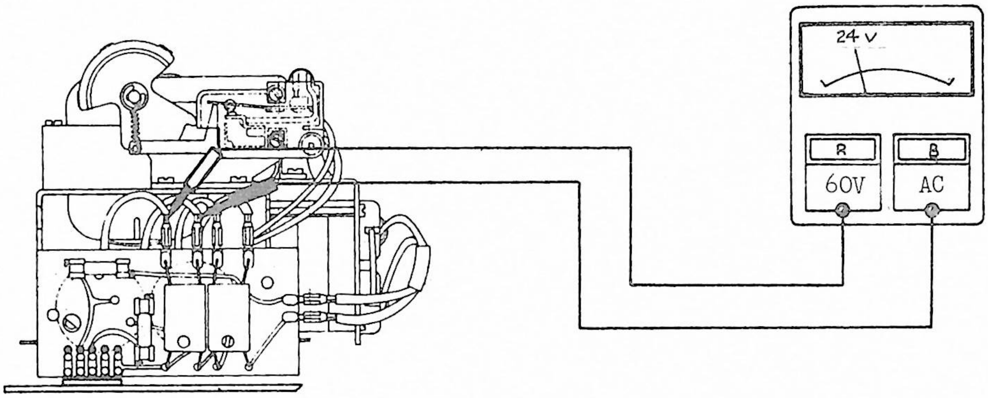
TEST 1B1

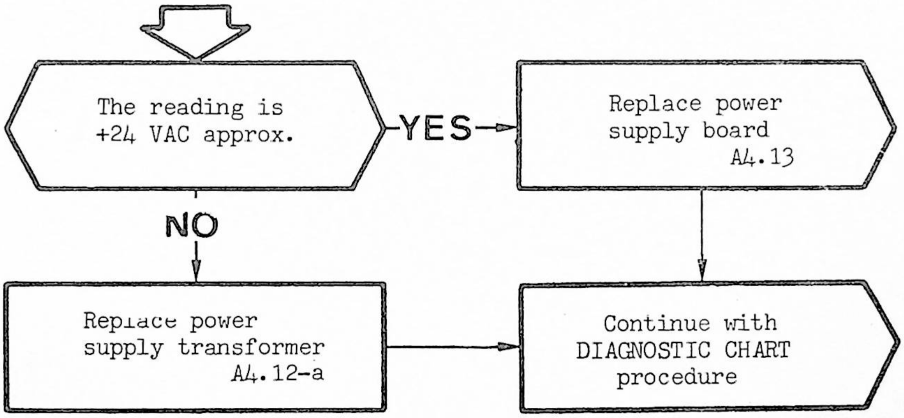
+20 VDC WINDING (TRANSFORMER SECONDARY WINDING)

OLD STYLE POWER SUPPLY - NEW STYLE POWER SUPPLY

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove plastic insulators from faston as shown in figure
3 - Insert line cord and turn power switch on
4 - Set VOM for an AC voltage measurement (scale 60V AC)
5 - Perform test as shown in figure




The reading is +24 VAC approx.
YES
Replace power supply board A4.13
NO
Replace power supply transformer A4.12-a
Continue with DIAGNOSTIC CHART procedure

TEST 1C1

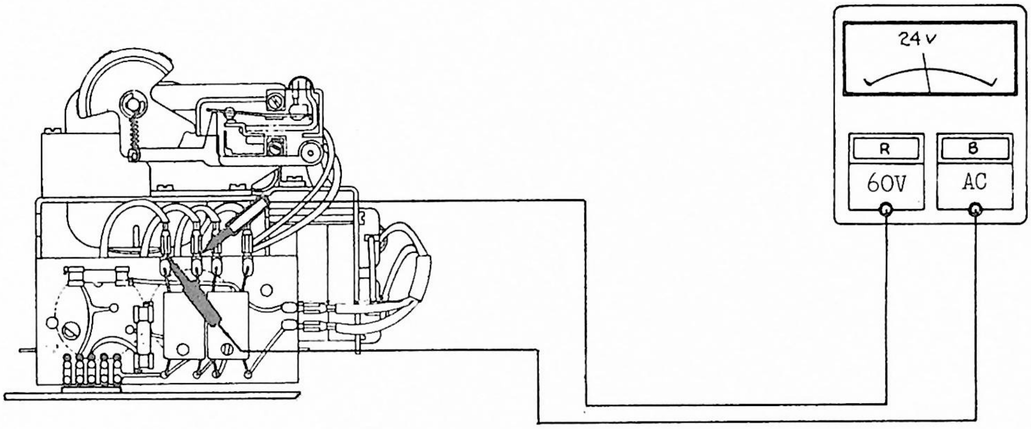
+20 VDC WINDING

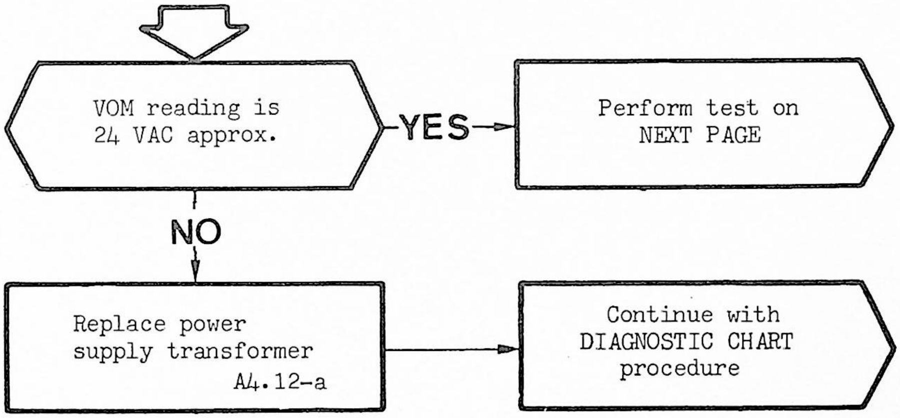
PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on

2 - Set VOM for AC voltage check (scale 60V AC)

3 - Perform test as shown in figure (ensure that fastons shown make good contact)




VOM reading is 24 VAC approx.

YES

Perform test on NEXT PAGE

NO

Replace power supply transformer A4.12-a

Continue with DIAGNOSTIC CHART procedure

TEST 1C2

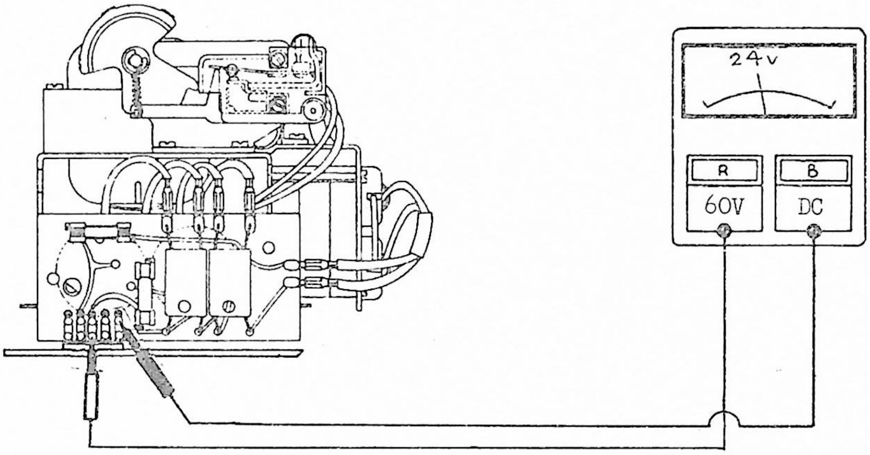
POWER SUPPLY BOARD

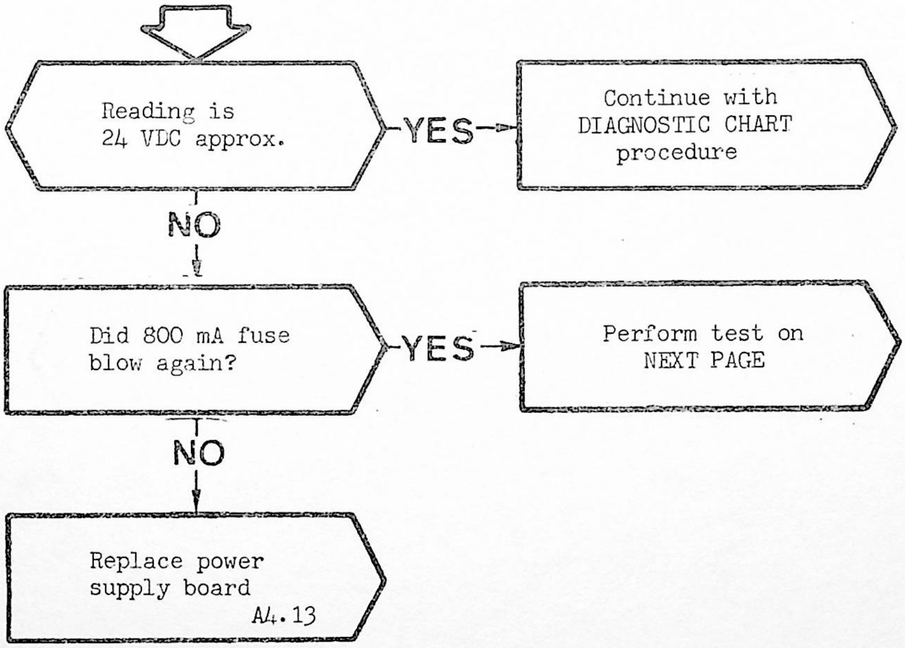
PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on

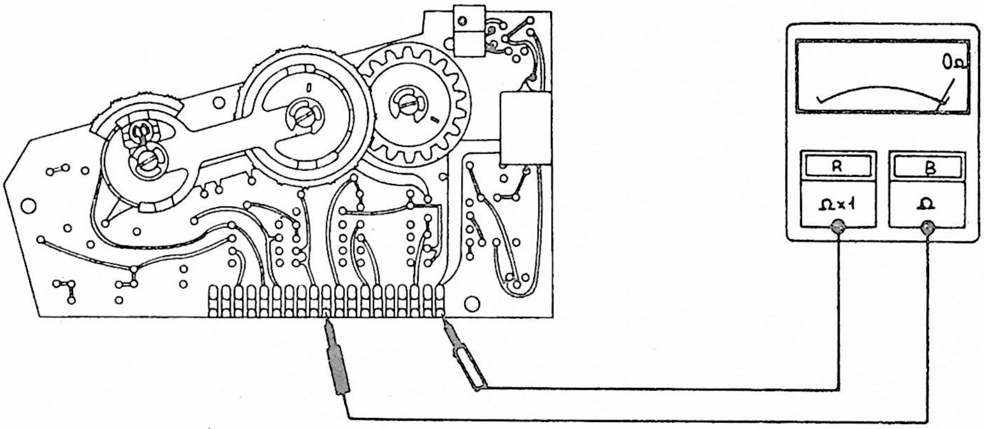
2 - Set VOM for a DC voltage reading (scale 60V DC)

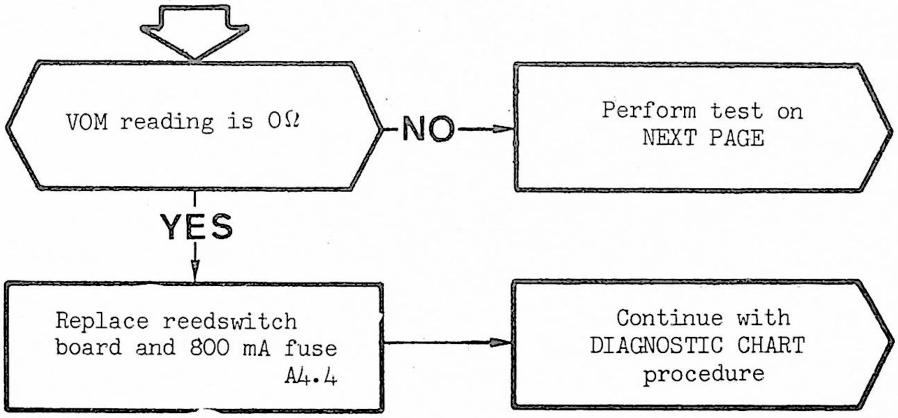
3 - Wait a few seconds, then perform test as shown in figure




Reading is 24 VDC approx.
YES
Continue with DIAGNOSTIC CHART procedure
NO
Did 800 mA fuse blow again?
YES
Perform test on NEXT PAGE
NO
Replace power supply board
A4.13

TEST 1C3	REEDSWITCH BOARD
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove reedswitch board (A4.4) 3 - Set VOM for a continuity check (scale Ω x 1) 4 - Perform test as shown in figure





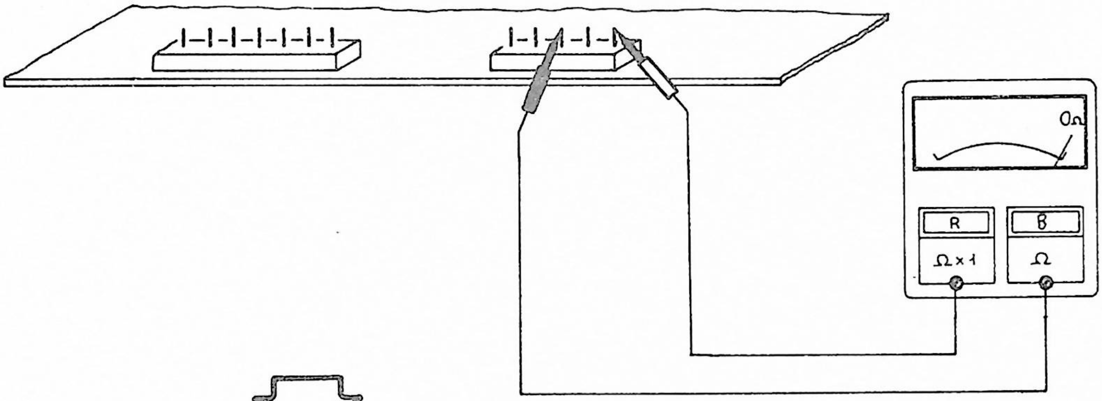
VOM reading is 0Ω

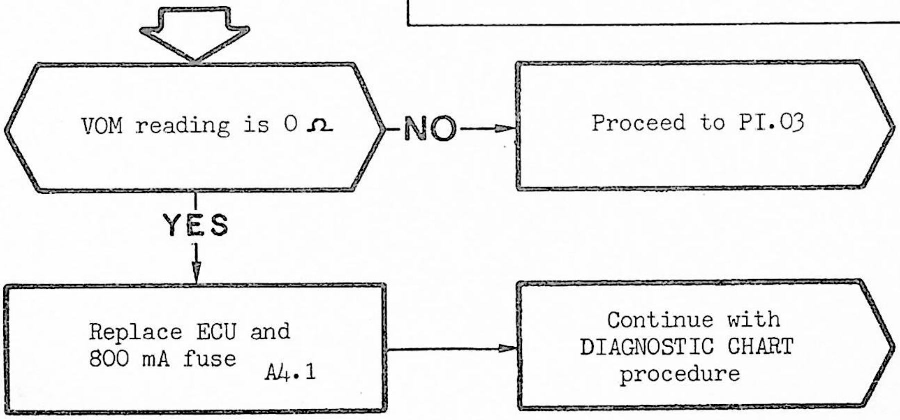
Perform test on NEXT PAGE

Replace reedswitch board and 800 mA fuse A4.4

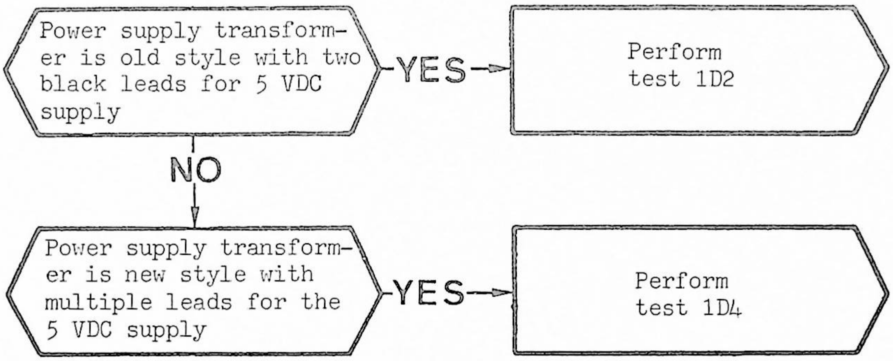
Continue with DIAGNOSTIC CHART procedure

TEST **1C4**	ELECTRONIC COMPUTING UNIT (ECU)
PRELIMINARY OPERATIONS	- Remove line cord - Remove ECU (without fire hammer board) (A4.1) - Set VOM for a continuity check (scale Ω x 1) - Perform test as shown in figure




VOM reading is 0 Ω
NO
Proceed to PI.03
YES
Replace ECU and 800 mA fuse A4.1
Continue with DIAGNOSTIC CHART procedure

TEST **1D1**	POWER SUPPLY TRANSFORMER
PRELIMINARY OPERATIONS	- Determining type of transformer used in the machine


Power supply transformer is old style with two black leads for 5 VDC supply
YES
Perform test 1D2
NO
Power supply transformer is new style with multiple leads for the 5 VDC supply
YES
Perform test 1D4

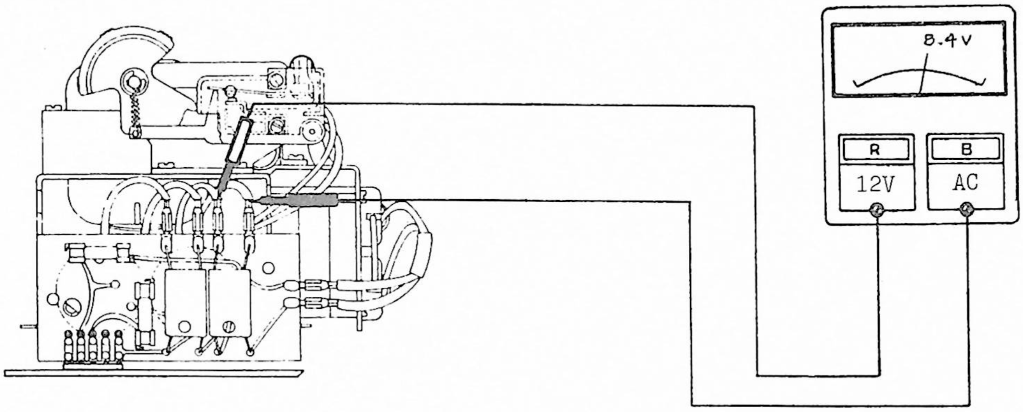
TEST 1D2

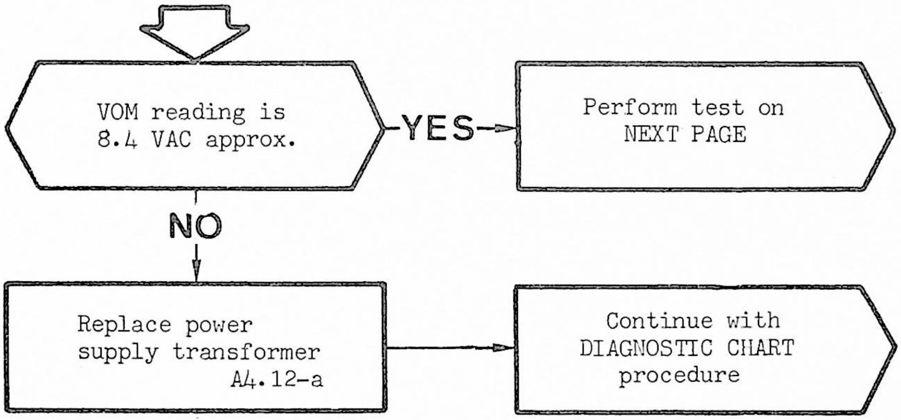
+5 VDC WINDING (TRANSFORMER SECONDARY WINDING)

OLD STYLE POWER SUPPLY TRANSFORMER

PRELIMINARY OPERATIONS

1 - Remove plastic insulators from fastons as shown in figure
2 - Insert line cord and turn power switch on
3 - Set VOM for AC voltage measurement (scale 12V AC)
4 - Perform test as shown in figure



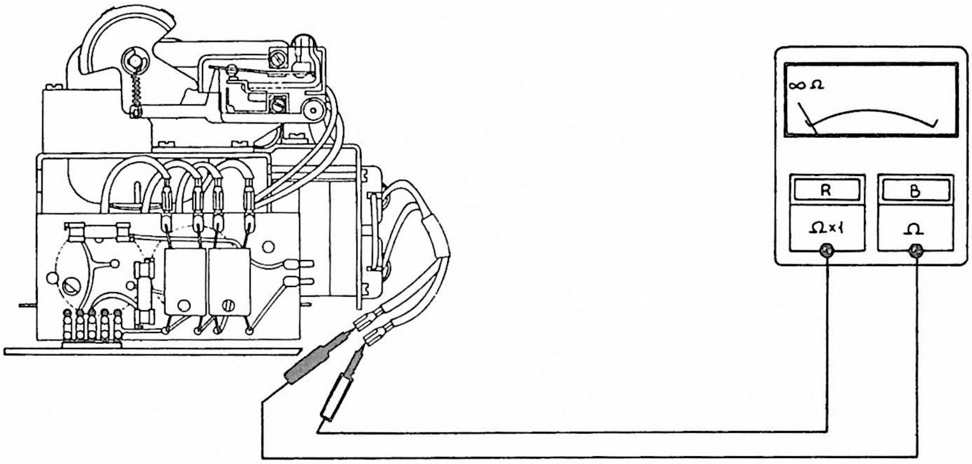

VOM reading is 8.4 VAC approx.
YES
Perform test on NEXT PAGE
NO
Replace power supply transformer A4.12-a
Continue with DIAGNOSTIC CHART procedure

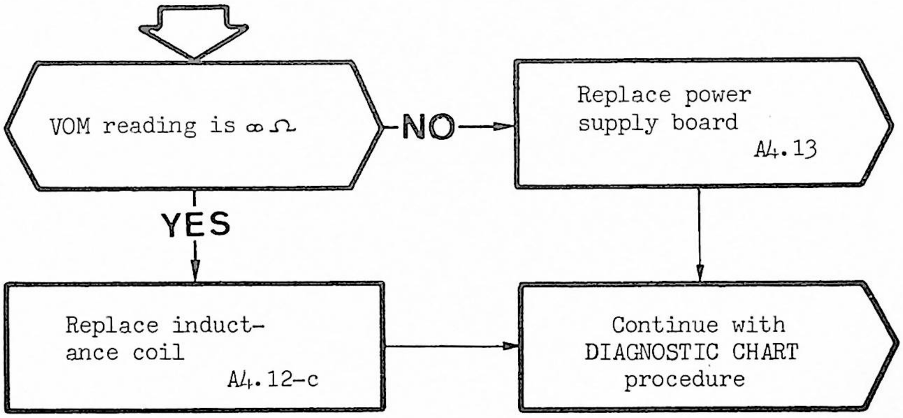
TEST 1D3

INDUCTANCE COIL

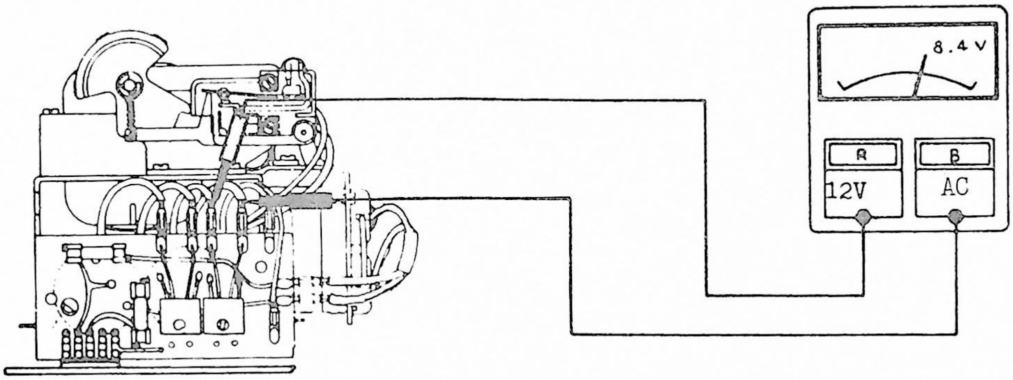
PRELIMINARY OPERATIONS

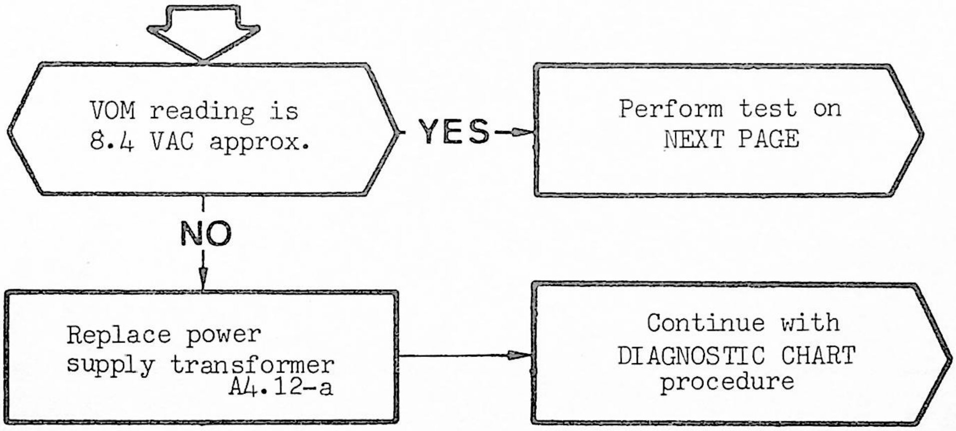
1 - Remove line cord
2 - Remove fastons from power supply board as shown in figure
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




VOM reading is ∞Ω
NO
Replace power supply board A4.13
YES
Replace inductance coil A4.12-c
Continue with DIAGNOSTIC CHART procedure

TEST 1D4	+5 VDC WINDING, NEW STYLE TRANSFORMER
PRELIMINARY OPERATIONS	1 - Remove plastic insulators from fastons as shown in figure 2 - Insert line cord and turn power switch on 3 - Set VOM for AC voltage measurement (scale 12V AC) 4 - Perform test as shown in figure



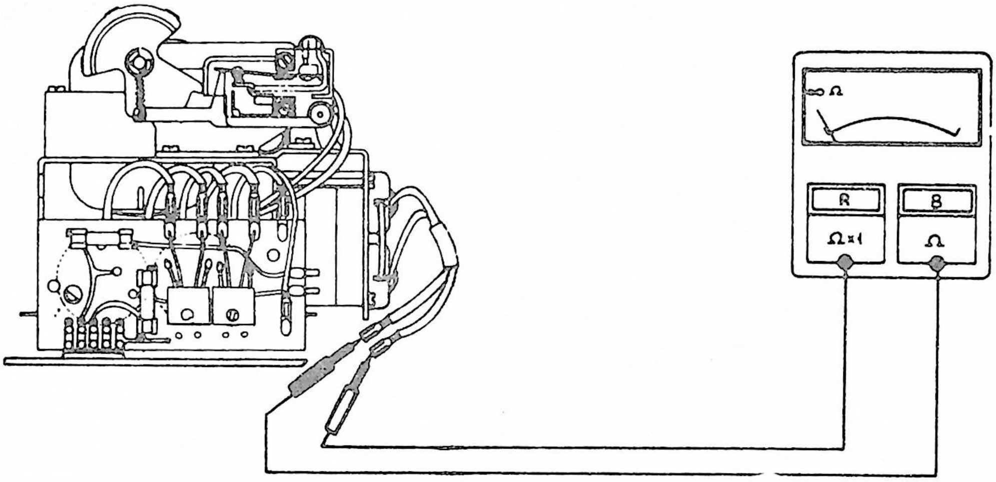

VOM reading is 8.4 VAC approx.
YES
Perform test on NEXT PAGE
NO
Replace power supply transformer A4.12-a
Continue with DIAGNOSTIC CHART procedure

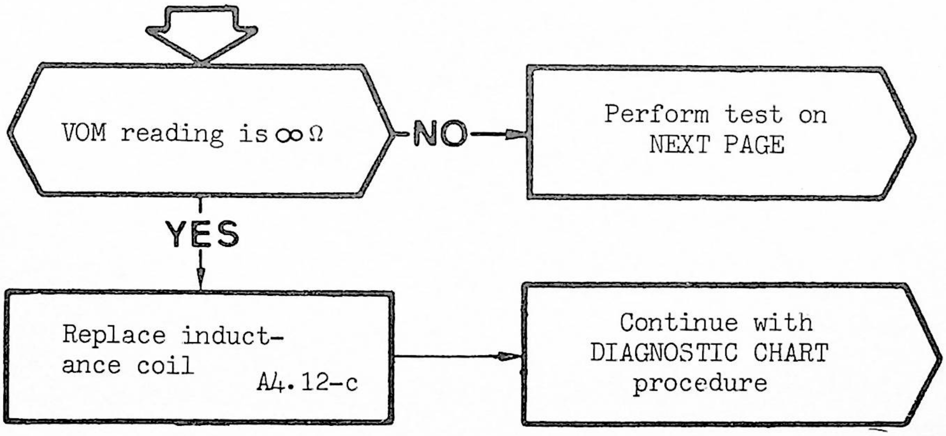
TEST 1D5

INDUCTANCE COIL

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove fastons from power supply board as shown in figure
3 - Set VOM for continuity check (scale Ω x 1)
4 - Perform test as shown in figure



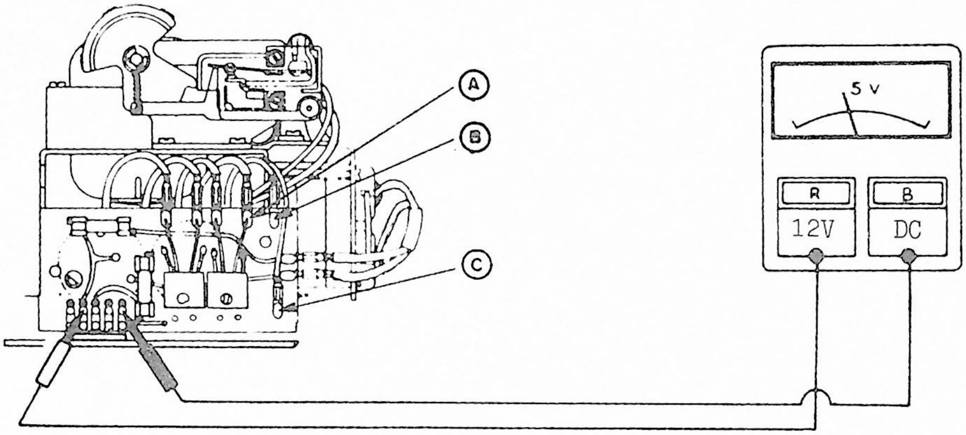

VOM reading is ∞ Ω
NO
Perform test on NEXT PAGE
YES
Replace inductance coil A4.12-c
Continue with DIAGNOSTIC CHART procedure

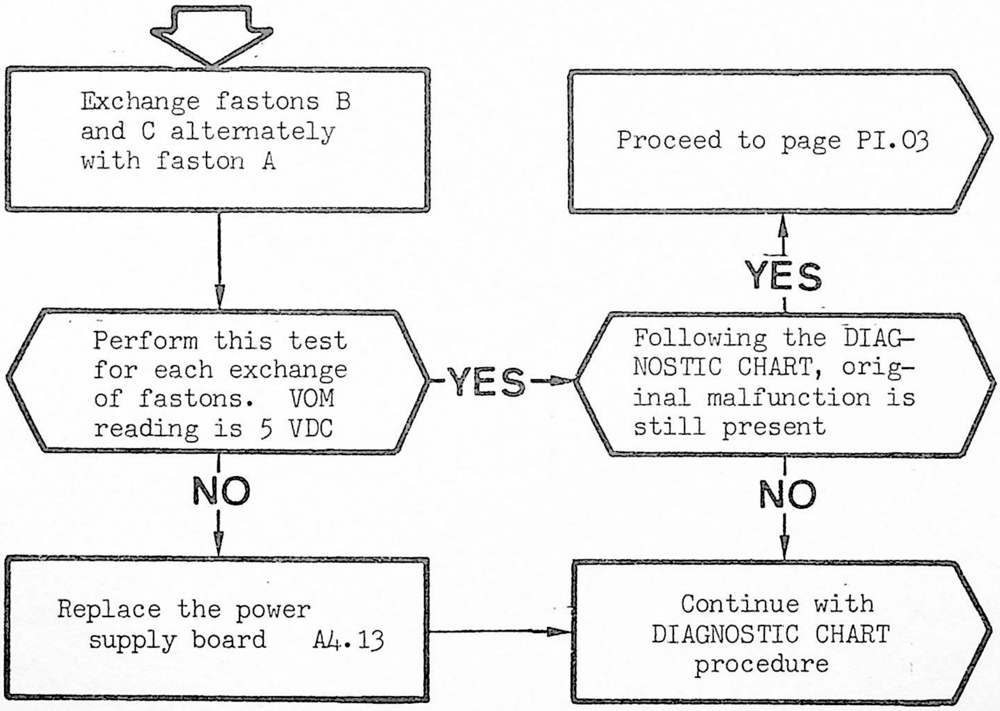
TEST 1D6

POWER SUPPLY BOARD, NEW STYLE TRANSFORMER -
OLD STYLE OR NEW STYLE POWER SUPPLY BOARD

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure (ensure that the fastons shown make good contact)





Exchange fastons B and C alternately with faston A

Perform this test for each exchange of fastons. VOM reading is 5 VDC

YES → Following the DIAGNOSTIC CHART, original malfunction is still present

YES → Proceed to page PI.03

NO → Continue with DIAGNOSTIC CHART procedure

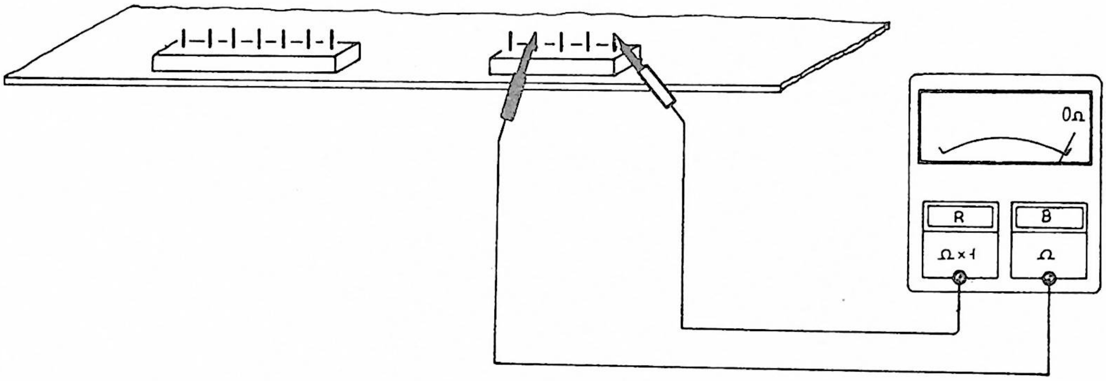
NO → Replace the power supply board A4.13 → Continue with DIAGNOSTIC CHART procedure

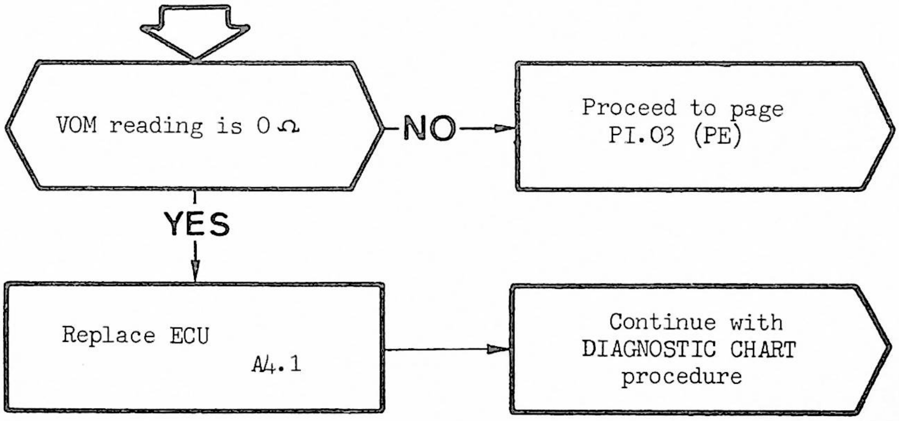
TEST
1E3

ELECTRONIC COMPUTING UNIT

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove ECU (without fire hammer board) (A4.1)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure (this shows contacts that go to power supply)




VOM reading is 0 Ω
NO
Proceed to page PI.03 (PE)
YES
Replace ECU A4.1
Continue with DIAGNOSTIC CHART procedure

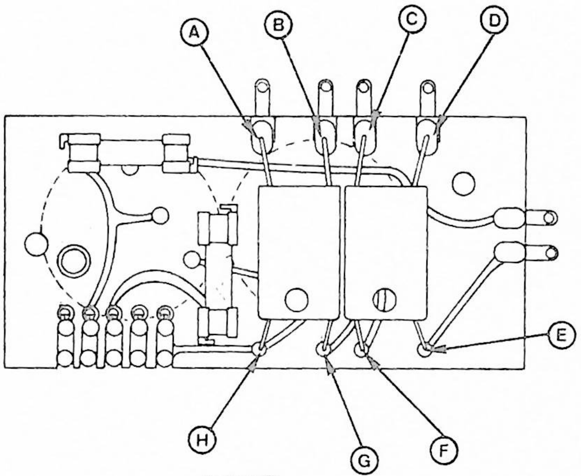
TEST 1E4

CHECK THE EFFICIENCY OF THE RECTIFIER BRIDGES
+20 AND +5 (SHORT CIRCUIT TEST)

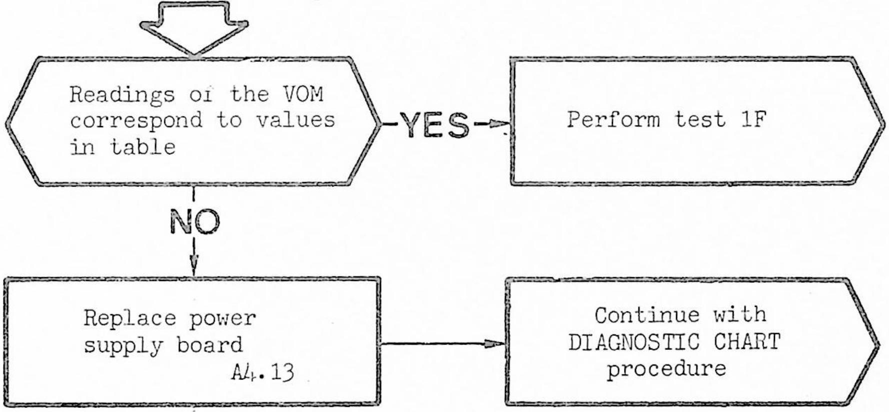
OLD STYLE POWER SUPPLY BOARD

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove power supply board (A4.13)
3 - Set VOM for continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing readings of VOM with values in table below



PROBES		READINGS (Ω) (APPROX.)
RED	BLACK	
B	H	150
G	B	150
G	A	150
A	H	150
D	F	150
E	D	150
E	C	150
E	F	575
G	H	575


Readings of the VOM correspond to values in table

YES

Perform test 1F

NO

Replace power supply board A4.13

Continue with DIAGNOSTIC CHART procedure

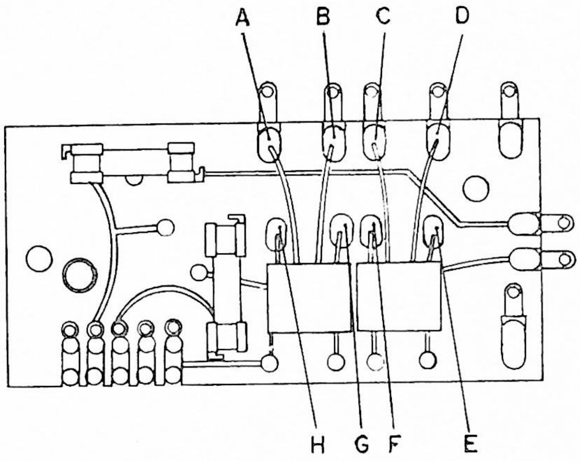
TEST
1E5

CHECK THE EFFICIENCY OF THE RECTIFIER BRIDGES +20 AND +5 (SHORT CIRCUIT TEST)

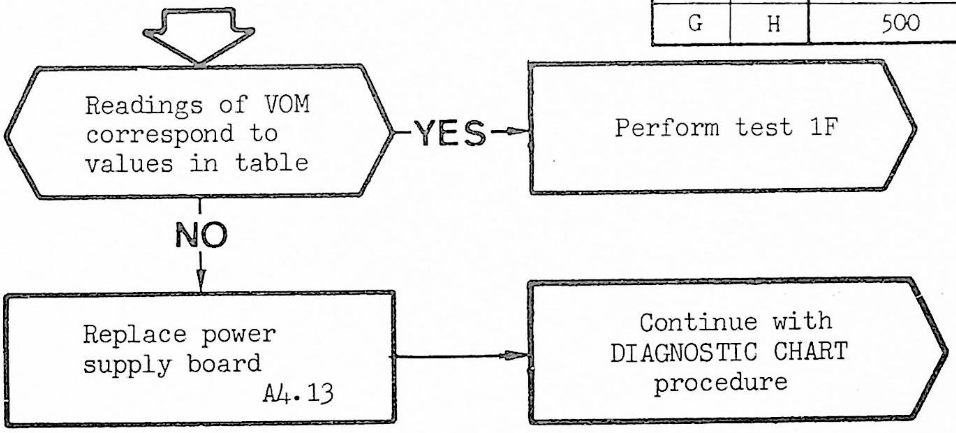
NEW STYLE POWER SUPPLY BOARD

PRELIMINARY OPERATIONS

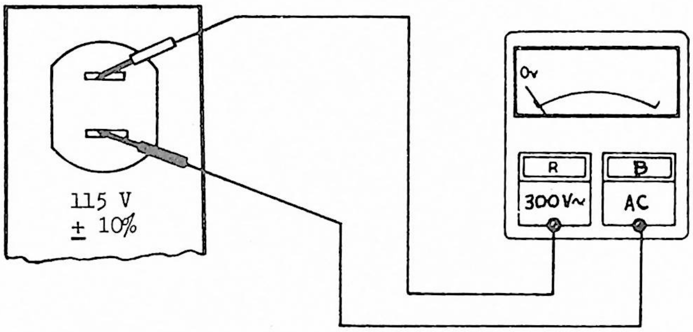
1 - Remove line cord
2 - Remove power supply board (A4.13)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure, comparing the readings of VOM with the values in table below

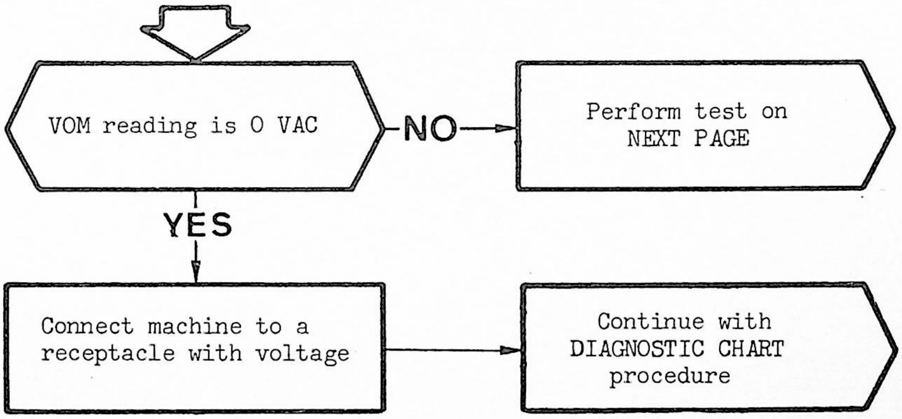


PROBES		READINGS (Ω) (APPROX)
RED	BLACK	
B	H	150
G	B	150
G	A	150
A	H	150
D	F	150
E	D	150
E	C	150
E	F	500
G	H	500


Readings of VOM correspond to values in table
YES
Perform test 1F
NO
Replace power supply board A4.13
Continue with DIAGNOSTIC CHART procedure

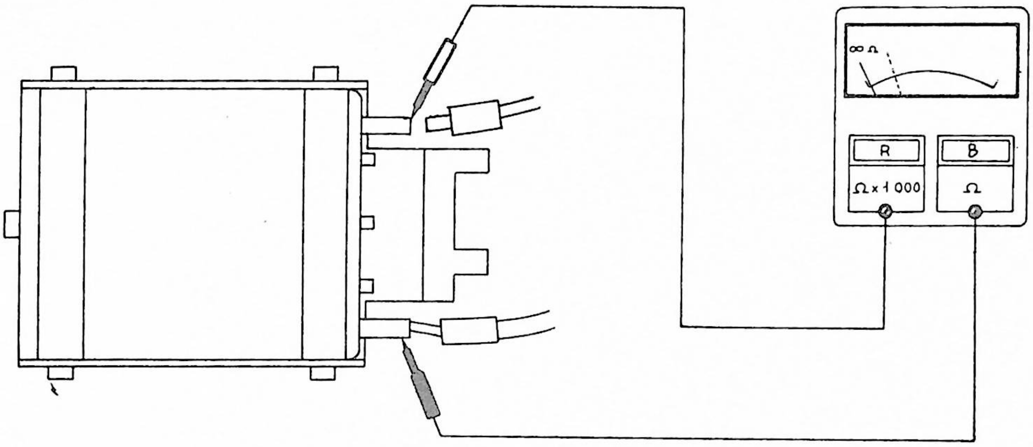
TEST 1F1	AC VOLTAGE
PRELIMINARY OPERATIONS	1 - Remove line cord from wall socket 2 - Set VOM for an AC voltage measurement (scale 300V AC) 3 - Perform test as shown in figure

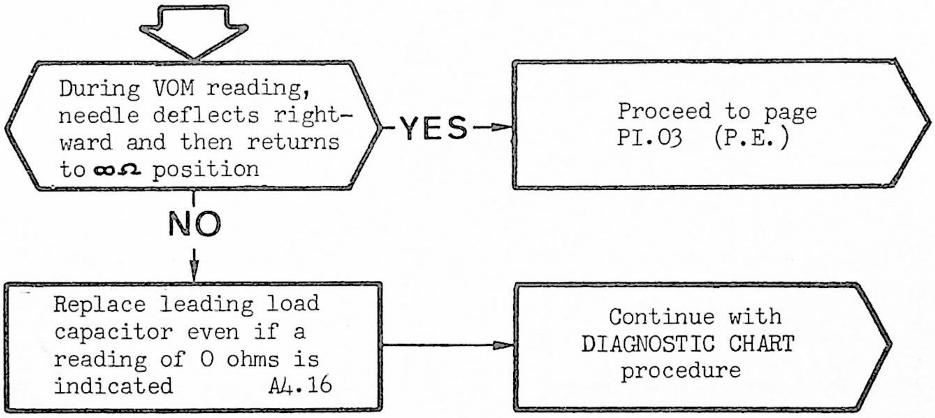




VOM reading is 0 VAC
NO
Perform test on NEXT PAGE
YES
Connect machine to a receptacle with voltage
Continue with DIAGNOSTIC CHART procedure

TEST 1F2	LEADING LOAD CAPACITOR
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Remove leading load capacitor from power supply unit (A4.16) 3 - Unsolder one of the wires and raise plastic insulator of second wire 4 - Set VOM for a continuity check (scale Ω x 1000); rotate OHM adjust control on VOM fully to right 5 - With a screwdriver, for an instant, short the two ends of the capacitor 6 - Perform test as shown in figure





During VOM reading, needle deflects rightward and then returns to ∞Ω position

YES

Proceed to page PI.03 (P.E.)

NO

Replace leading load capacitor even if a reading of 0 ohms is indicated A4.16

Continue with DIAGNOSTIC CHART procedure

A1

MALFUNCTION CODING

1	2	3	4

← MALFUNCTION CODE

1st LETTER - LIGHTS

Code	Green	Red
A	Off	Off
B	Off	On
C	On	Off
D	On	On
E	Dim	Dim

2nd LETTER - KEYBOARD

Code	Condition
F	Keyboard is unlocked
G	Keyboard is locked without depressing RESET Key
J	Keyboard is locked after RESET Key is depressed

3rd LETTER - CARRIAGE AND LINE SPACE

Code	Condition
H	The carriage did not move and no line spacing has taken place.
N	The carriage starts, advances and stops at end of line
P	The carriage starts as in a normal print operation, but once it is back at rest position it starts again for another print
X	Both carriage and line space are operating correctly
Z	The paper is not released
W	The line space is not performed correctly

4th LETTER - PRINT

Code	Condition
Q	Nothing is printed
R	The print is correct
T	Wrong print in both the numeric and instruction part
V	Wrong numeric print
S	Wrong print in both the instruction and address

As can be seen in the illustration above, a malfunction code is made up of four letters. Each letter corresponds to one of four main group of symptoms.

Now, let us assume you are at a customer's office and you observe a machine which has the following conditions:

- Green light ON
- Red light OFF
- The keyboard is unlocked
- The machine prints normally except that the answer is wrong; for example: 12#
  12X
  198T

By using the chart above we are able to establish the code CFXV, which reflects the condition of the machine. If you turn to page A1.05, you will see code CFXV listed to the left of the various machine conditions. Also note that the Probable Causes and Exits to be considered when repairing the machines are listed in the last two columns.

NOTE: If a zero (0) is present in the malfunction code, it is to be interpreted to mean that no coding is necessary for specific code areas; for example:

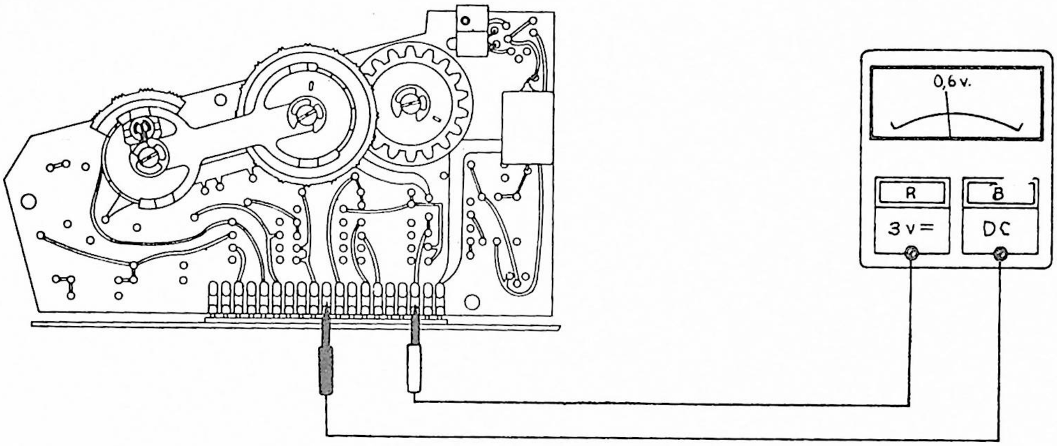
Code CF00 has a zero located in the 3rd and 4th position. This means that the carriage line space and print conditions of the machine are not to be considered as possible symptoms.

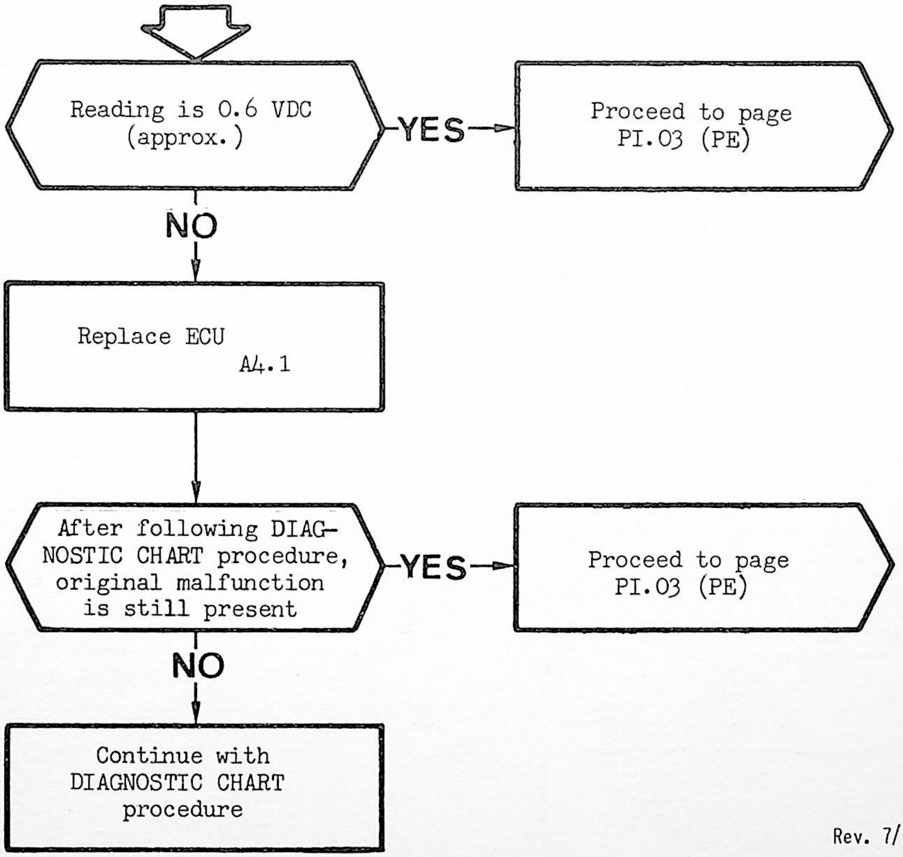
TEST F0023

SIGNAL EROA

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 0.6 VDC (approx.)

YES → Proceed to page PI.03 (PE)

NO → Replace ECU A4.1

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

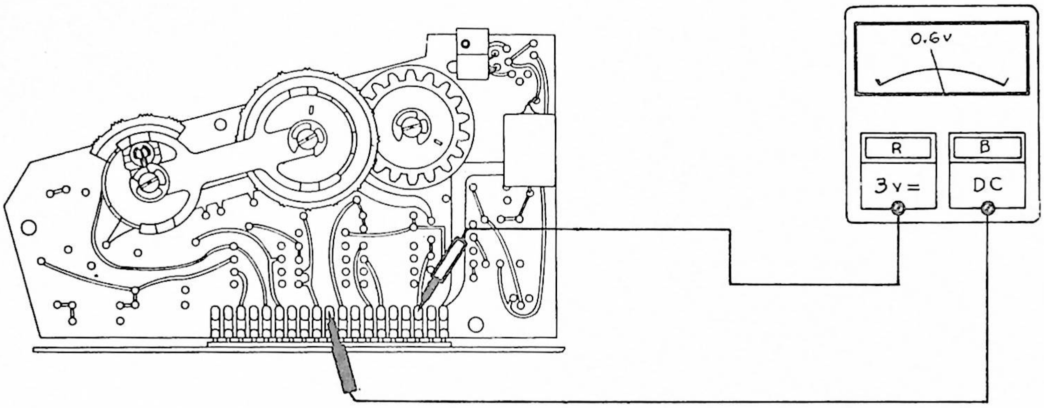
NO → Continue with DIAGNOSTIC CHART procedure

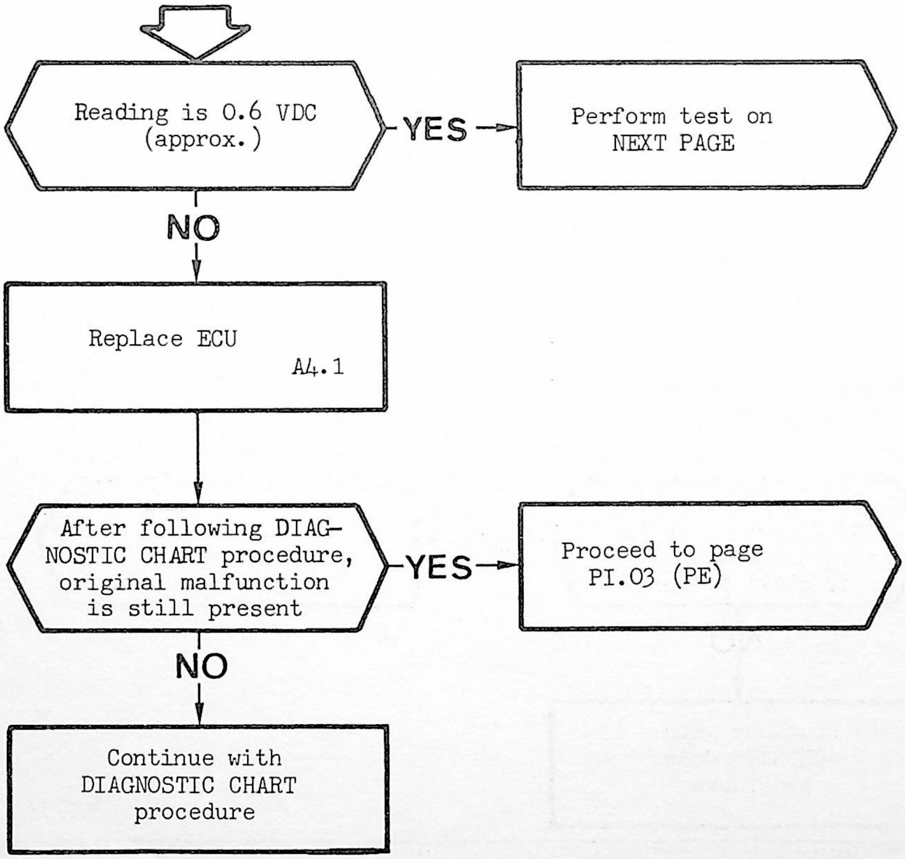
TEST F1002

SIGNAL EROA

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch off and on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Perform test as shown in figure (ensure that fastons shown make good contact)





Reading is 0.6 VDC (approx.)

YES → Perform test on NEXT PAGE

NO ↓

Replace ECU A4.1

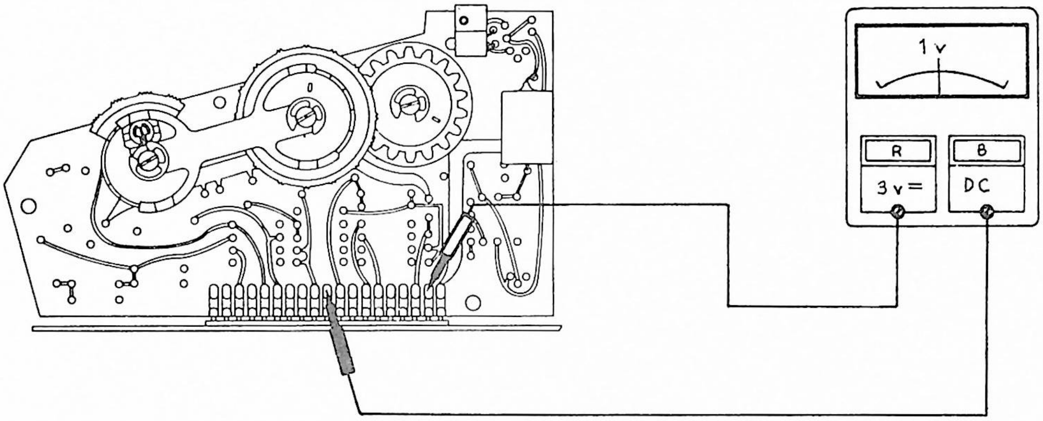
After following DIAGNOSTIC CHART procedure, original malfunction is still present

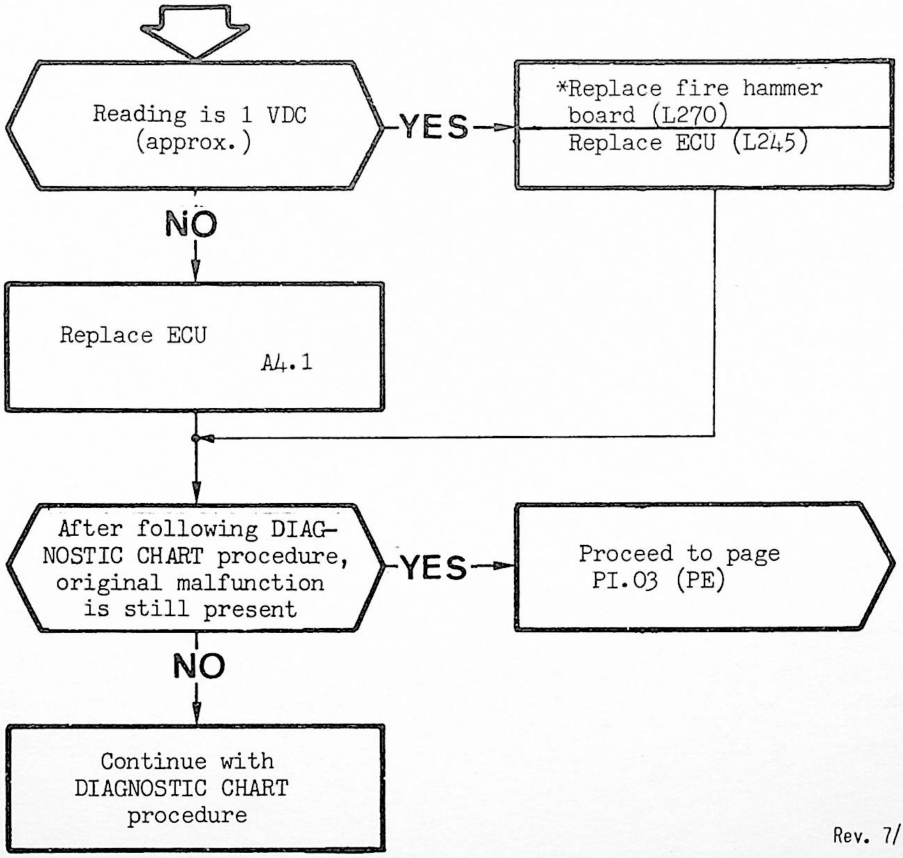
YES → Proceed to page PI.03 (PE)

NO ↓

Continue with DIAGNOSTIC CHART procedure

TEST G0041* G0042	SIGNAL BLOT
PRELIMINARY OPERATIONS	1 - Insert line cord and turn power switch on 2 - Set VOM for a DC voltage measurement (scale 3V DC) 3 - Perform test as shown in figure (ensure that fastons shown make good contact) 4 - Depress the reset key





Reading is 1 VDC (approx.)

YES → *Replace fire hammer board (L270) / Replace ECU (L245)

NO → Replace ECU A4.1

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

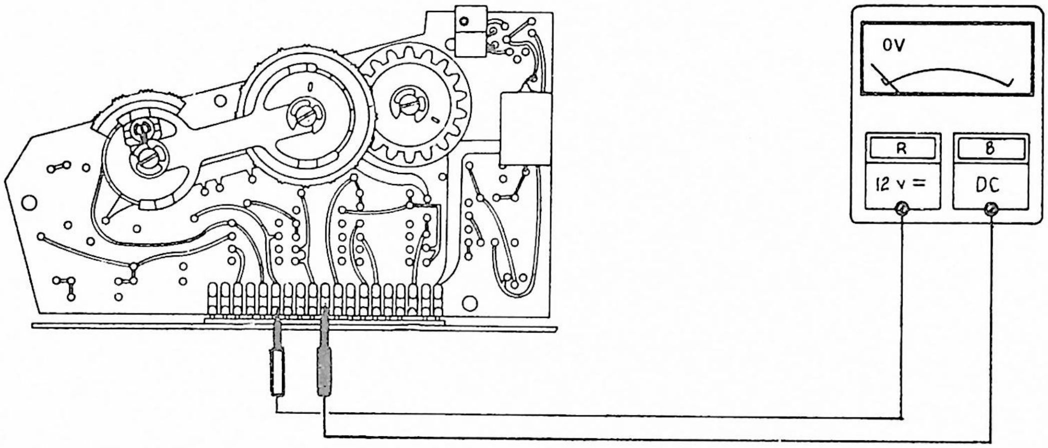
NO → Continue with DIAGNOSTIC CHART procedure

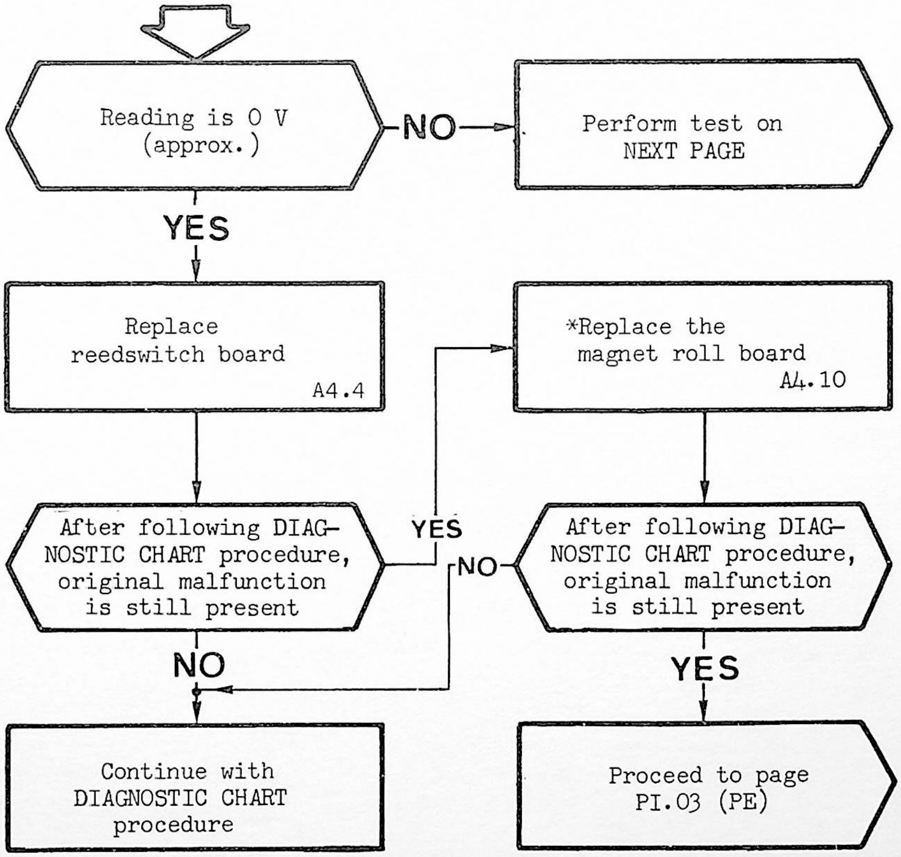
TEST
I0003
I0003*

REEDSWITCH AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure, taking care to manually remove screen of AF reedswitch from its magnet roll.



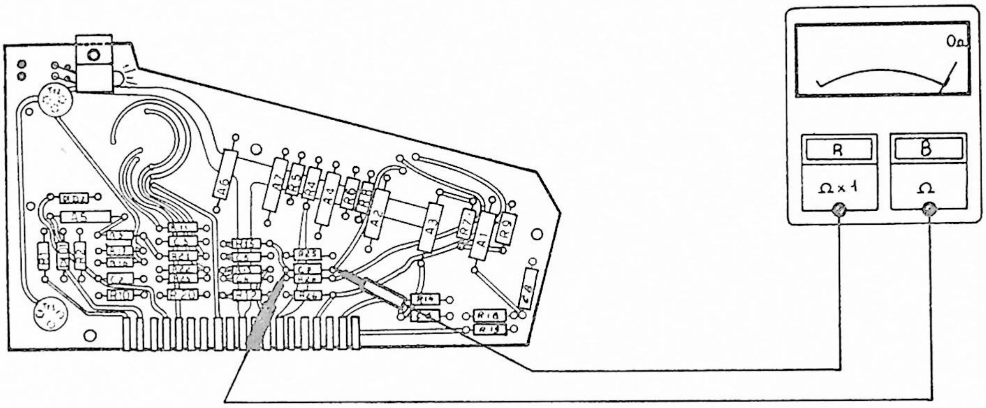

Reading is 0 V (approx.)
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board
A4.4
*Replace the magnet roll board
A4.10
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
NO
After following DIAGNOSTIC CHART procedure, original malfunction is still present
NO
YES
Continue with DIAGNOSTIC CHART procedure
Proceed to page PI.03 (PE)

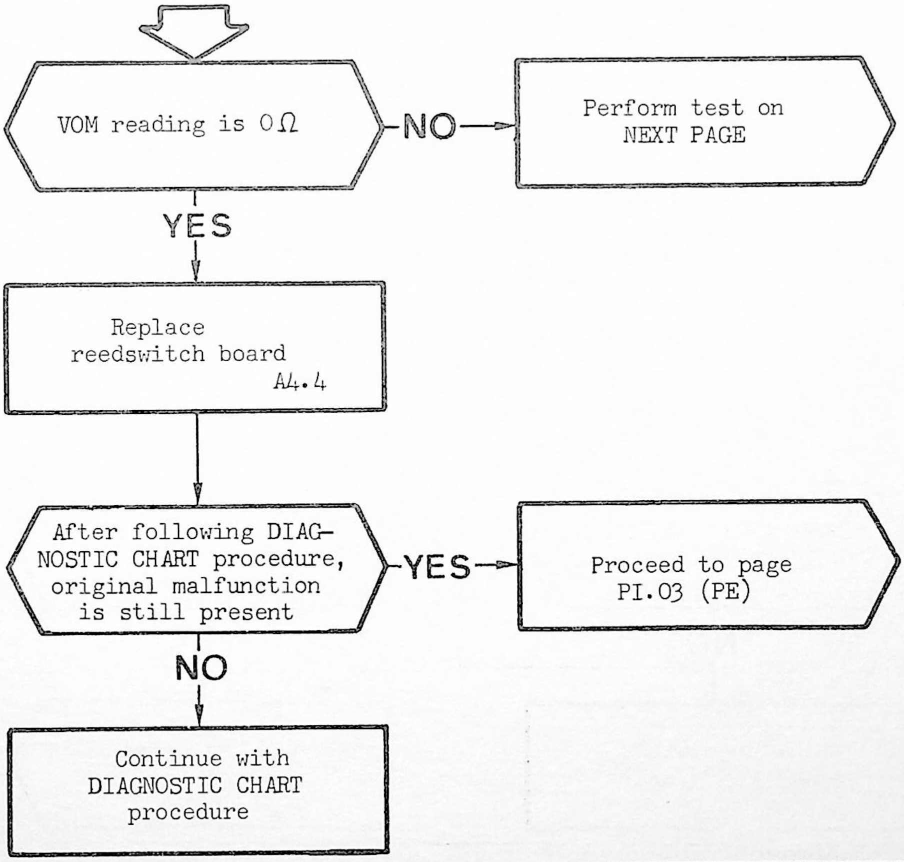
TEST 10013

CAPACITOR C7

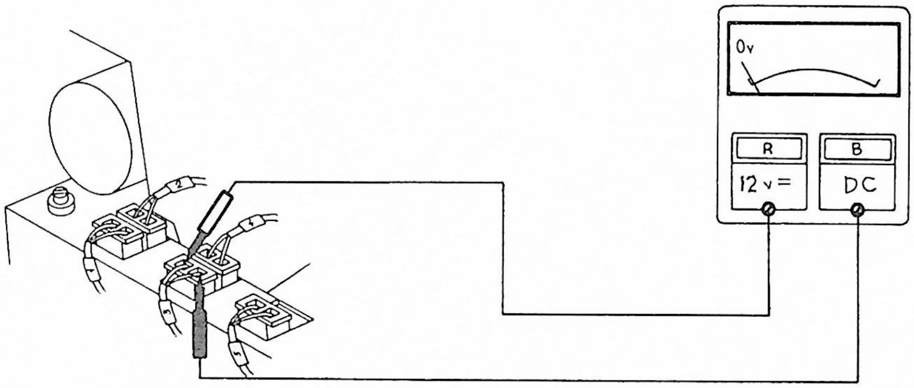
PRELIMINARY OPERATIONS

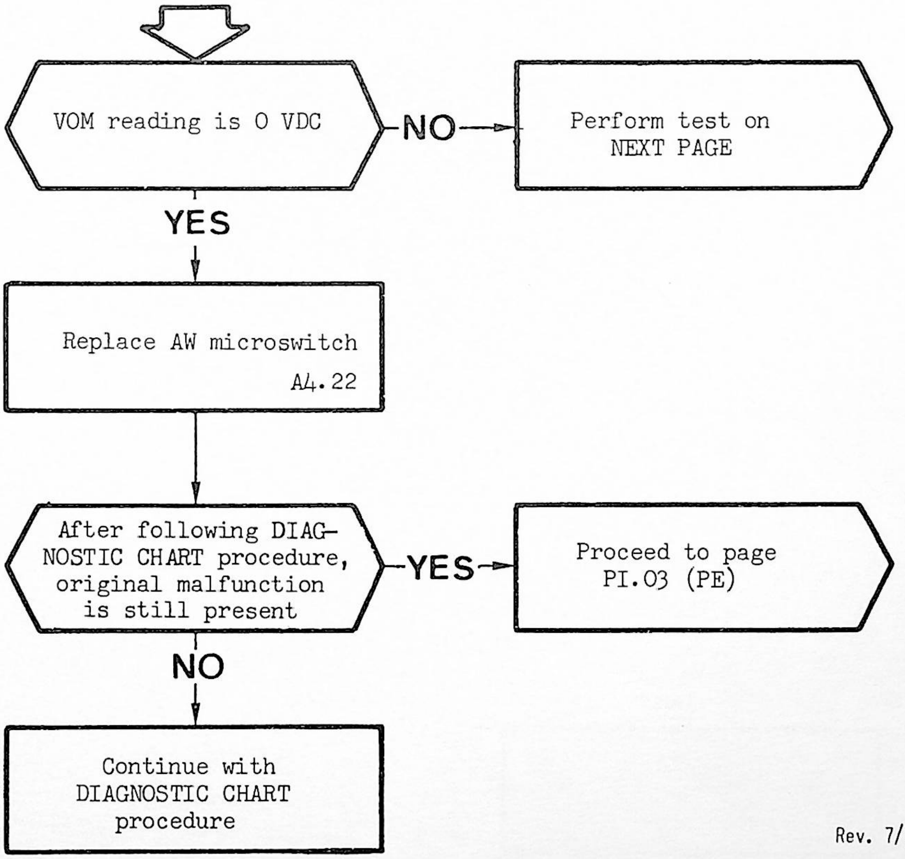
1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




VOM reading is 0 Ω
NO
Perform test on NEXT PAGE
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

TEST 11028	AW MICROSWITCH
PRELIMINARY OPERATIONS	1 - Remove line cord 2 - Hold the AW microswitch plunger depressed 3 - Insert line cord and turn power switch on 4 - Set VOM for a DC voltage measurement (scale 12V DC) 5 - Perform test as shown in figure (ensure that fastons shown make good contact)




VOM reading is 0 VDC

NO → Perform test on NEXT PAGE

YES ↓

Replace AW microswitch

A4.22

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

NO ↓

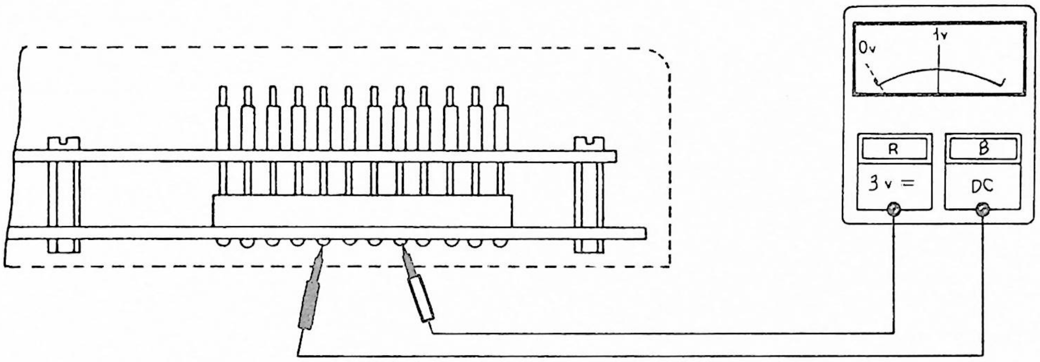
Continue with DIAGNOSTIC CHART procedure

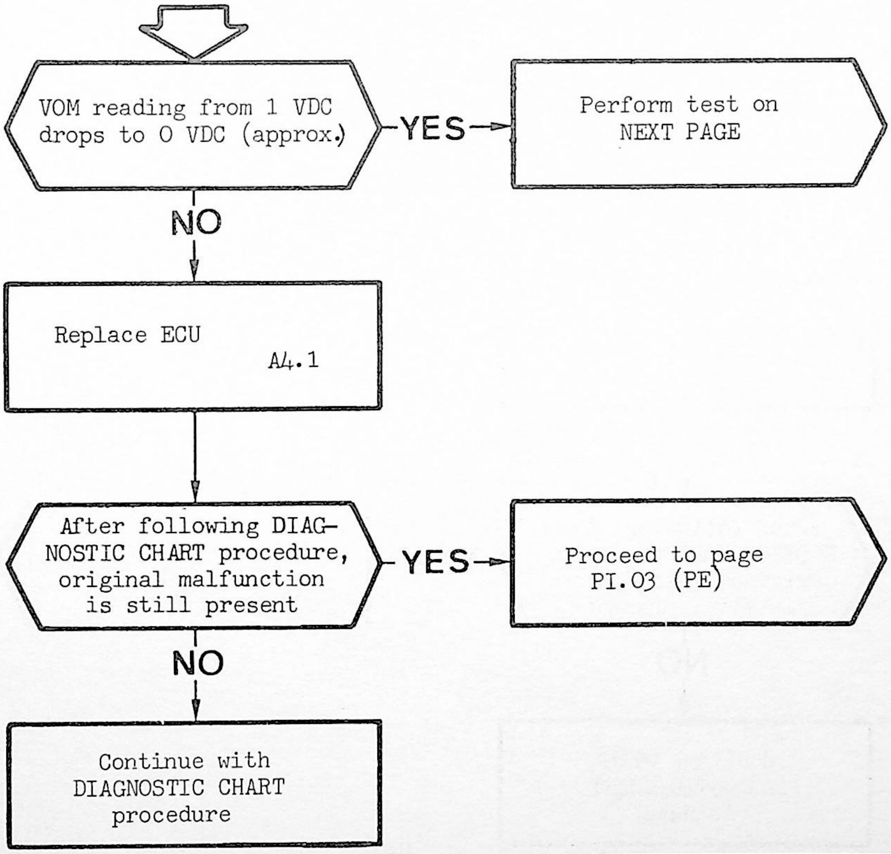
TEST
I1032

SIGNAL VRC (PRINTER SOLENOID)

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 3V DC)
3 - Depressing the first register total key T1, perform test as shown in figure (ensure that fastons shown make good contact)





VOM reading from 1 VDC drops to 0 VDC (approx.)

YES → Perform test on NEXT PAGE

NO → Replace ECU A4.1

After following DIAGNOSTIC CHART procedure, original malfunction is still present

YES → Proceed to page PI.03 (PE)

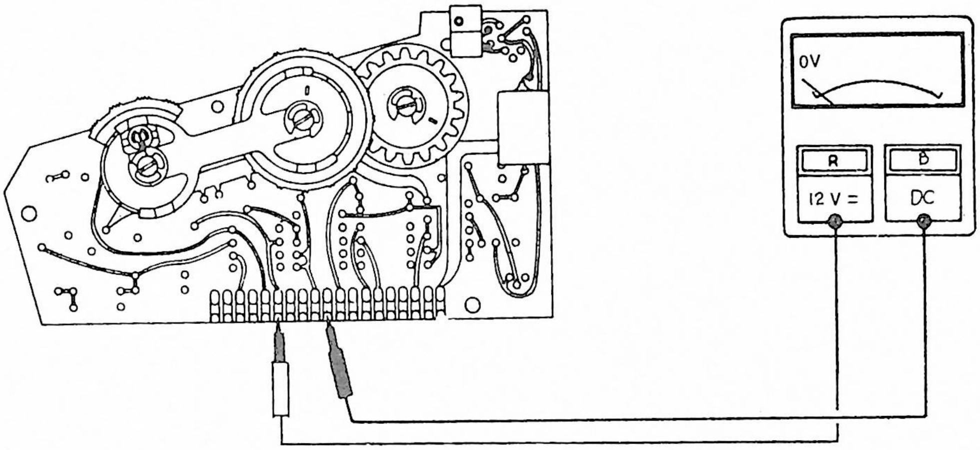
NO → Continue with DIAGNOSTIC CHART procedure

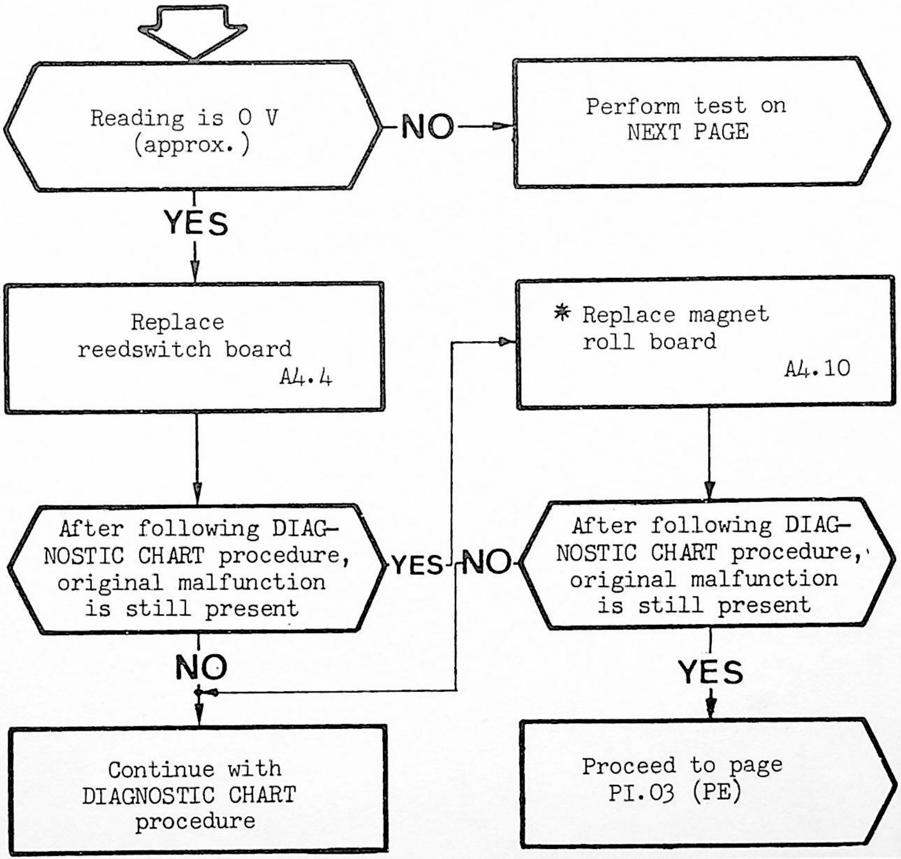
TEST
12003
12003*

REEDSWITCH AF

PRELIMINARY OPERATIONS

1 - Insert line cord and turn power switch on
2 - Set VOM for a DC voltage measurement (scale 12V DC)
3 - Perform test as shown in figure, taking care to manually remove screen of AF reedswitch from its magnet roll





Reading is 0 V (approx.)

Perform test on NEXT PAGE

Replace reedswitch board A4.4

* Replace magnet roll board A4.10

After following DIAGNOSTIC CHART procedure, original malfunction is still present

After following DIAGNOSTIC CHART procedure, original malfunction is still present

Continue with DIAGNOSTIC CHART procedure

Proceed to page PI.03 (PE)

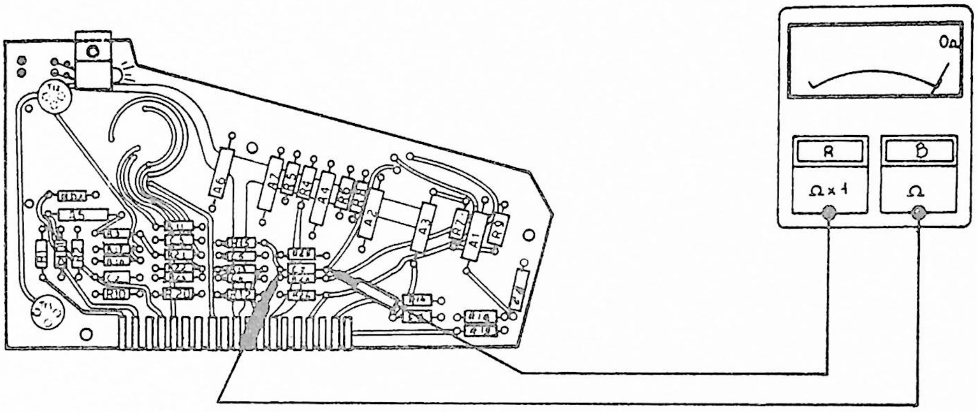
TEST

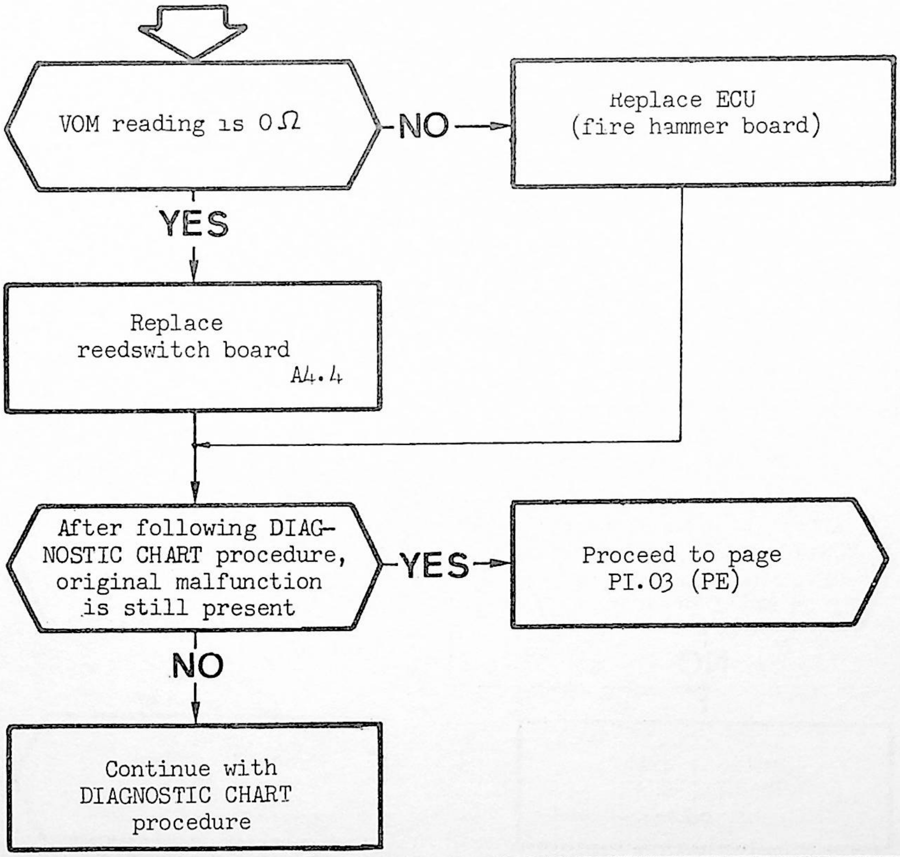
12013

CAPACITOR C7

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove reedswitch board (A4.4)
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure



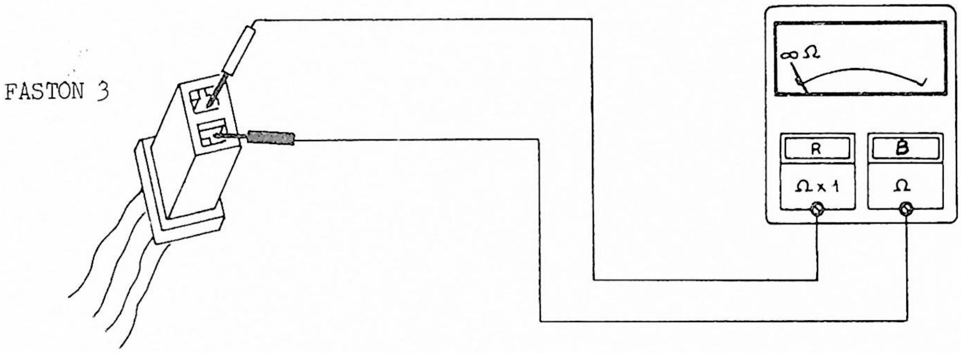

VOM reading is 0 Ω
NO
Replace ECU (fire hammer board)
YES
Replace reedswitch board A4.4
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

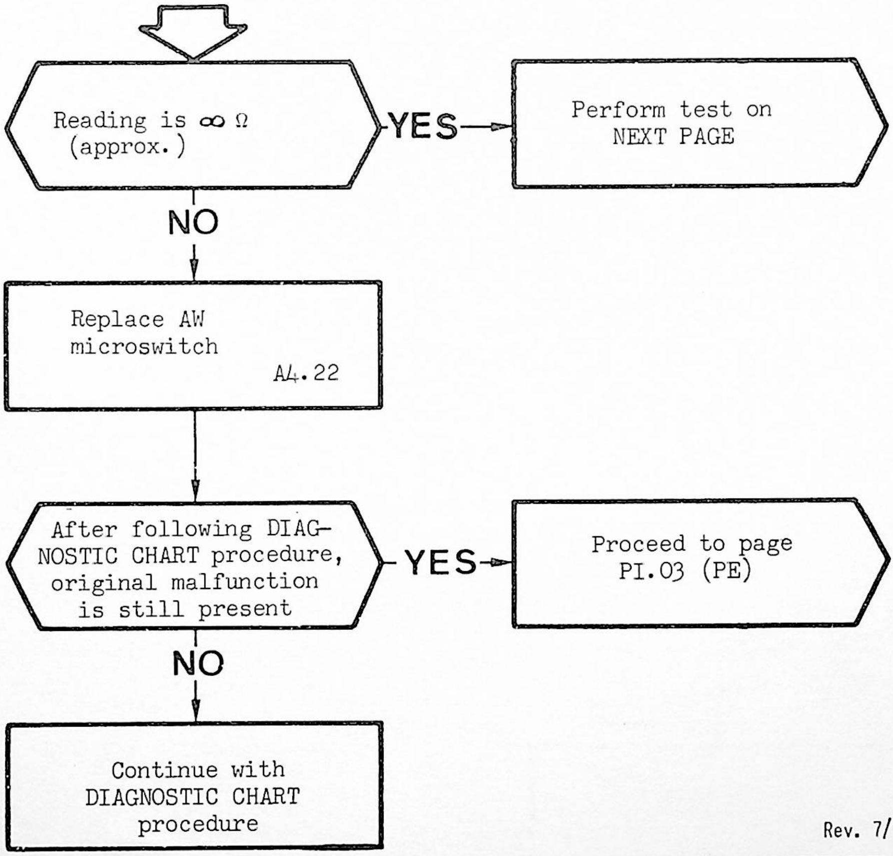
TEST K1008

EFFICIENCY OF AW MICROSWITCH

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Disconnect faston 3 from fire hammer board
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Push AW microswitch plunger in, and perform test as shown in figure



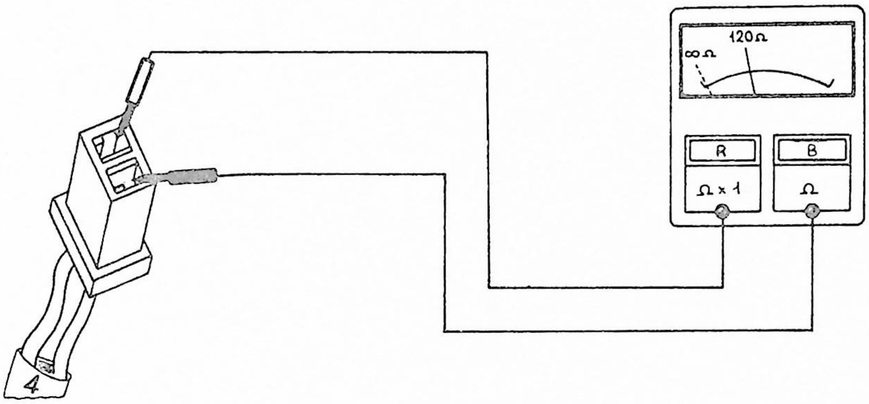

Reading is ∞ Ω (approx.)
YES
Perform test on NEXT PAGE
NO
Replace AW microswitch
A4.22
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

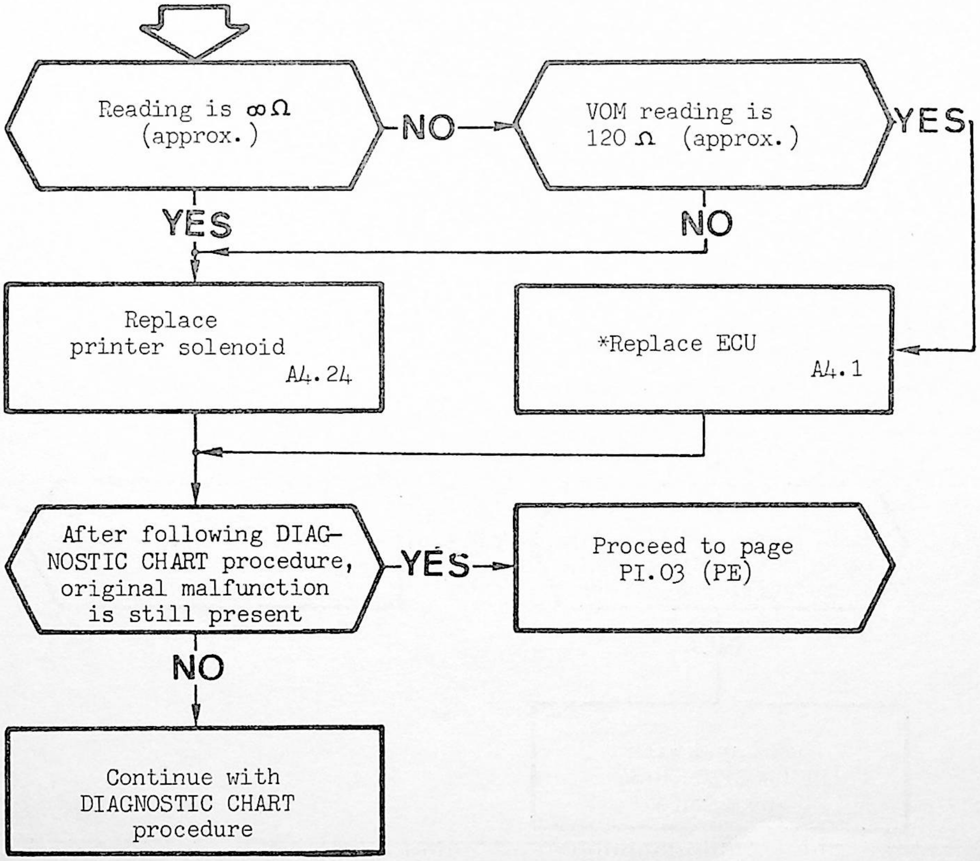
TEST
K1018
K1012*

PRINTER SOLENOID

PRELIMINARY OPERATIONS

1 - Remove line cord
2 - Remove faston 4 of printer solenoid
3 - Set VOM for a continuity check (scale Ω x 1)
4 - Perform test as shown in figure




Reading is ∞Ω (approx.)
NO
VOM reading is 120 Ω (approx.)
YES
YES
NO
Replace printer solenoid A4.24
*Replace ECU A4.1
After following DIAGNOSTIC CHART procedure, original malfunction is still present
YES
Proceed to page PI.03 (PE)
NO
Continue with DIAGNOSTIC CHART procedure

REMOVAL OF THE POWER SUPPLY TRANSFORMER

a - Remove cover (A2.6)

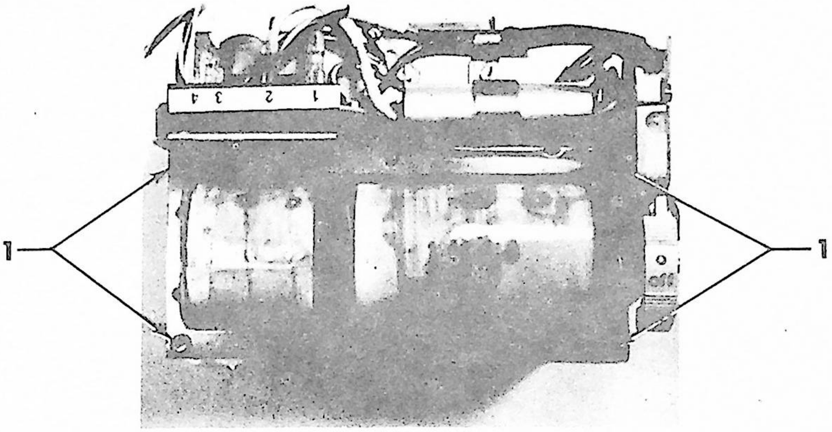
b - Remove power supply unit (A4.11)

c - Remove power supply board (A4.13 or A4.12-b)

d - Remove the leading load capacitor (A4.16)

e - Remove inductance coil (A4.12-c)

f - Remove the AC filter (A4.15)



g - Remove the four transformer mounting screws 1.

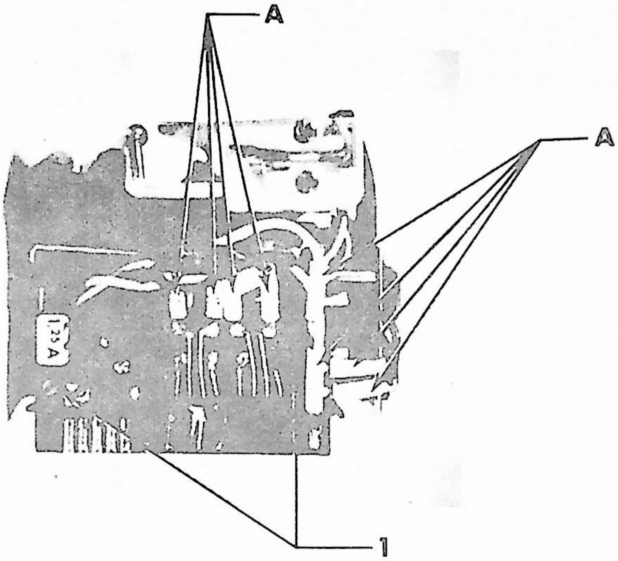
h - Remove transformer. It will be necessary to loosen or remove the screws holding the white plastic power receptacle in order to allow the transformer ground wire to pass between itself and the frame. (See note on page A4.12-c)

NOTE: During re-assembly, be sure to solder the three wires to the filter in the order shown on the bottom of A4.15

REMOVAL OF THE NEW STYLE POWER SUPPLY BOARD

a - Remove cover (A2.6)

b - Remove power supply unit (A4.11)



c - Disconnect the eight fastons A

d - Back out screws 1

e - Remove power supply board

NOTE: After re-assembly, perform Test 1D6. Attach the two remaining female fastons to the two empty male fastons, above and below the inductance coil connections.

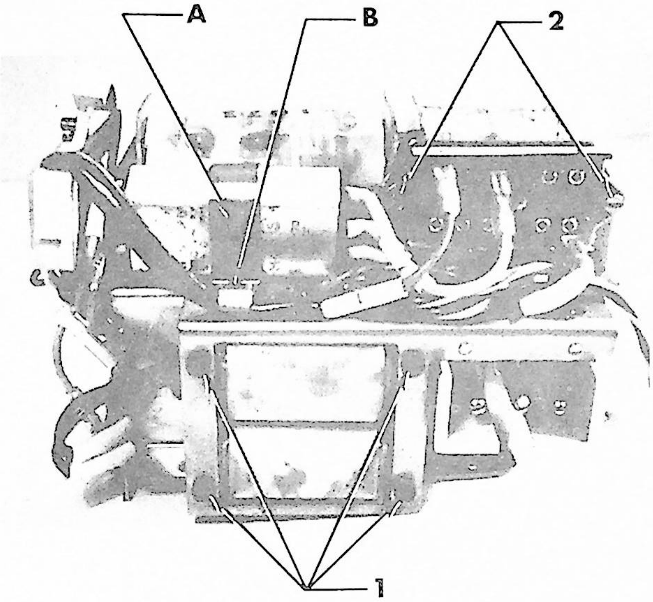
REMOVAL OF THE INDUCTANCE COIL

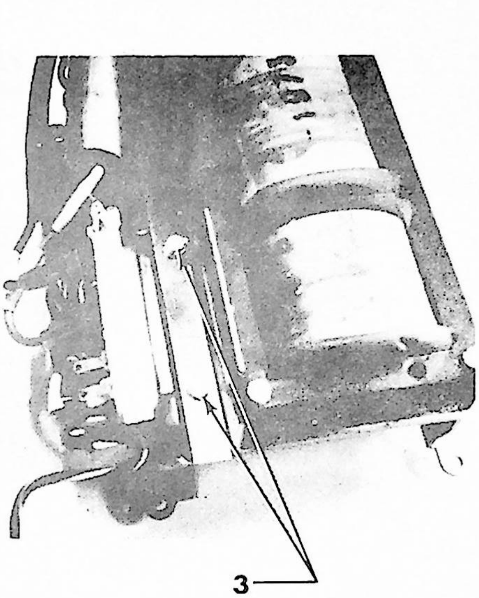
a - Remove cover (A2.6)

b - Remove power supply unit (A4.11)

c - Remove power supply board (A4.13 or A4.12-b)

d - Remove screw B holding the filter clamp A and remove the clamp (A4.15). Do not unsolder the filter wires.





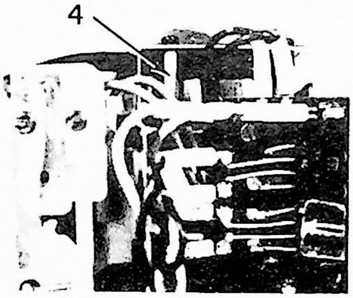
e - Remove the two screws 2 holding the terminal board in place. Slide the black plastic insulator out to the right and remove.

f - Remove the two screws 3 beneath the terminal board holding the plug and coil bracket.

g - Remove the four screws 1, the four standoffs 4, and the coil.

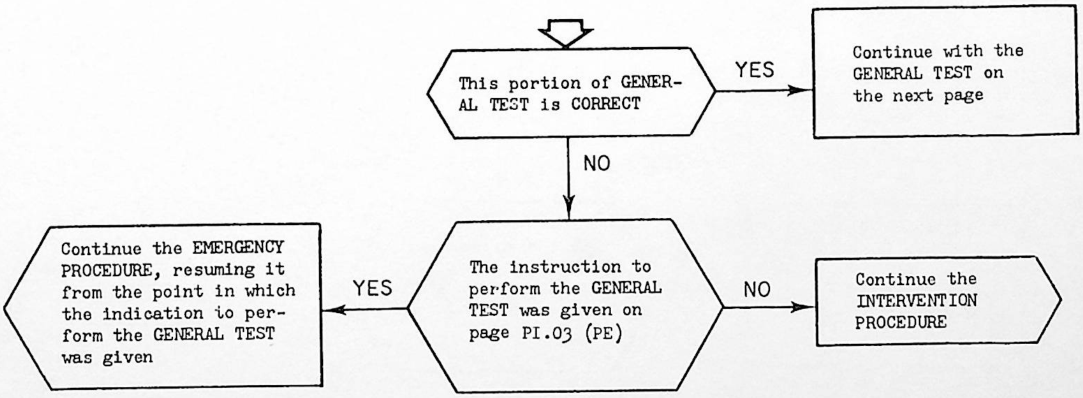
NOTE: 1. The coil must be worked out carefully to avoid breaking the green/yellow transformer shield ground wire, passing over the power receptacle. If necessary, remove the screw common to all the green/yellow ground wires to gain some slack in the transformer wire.

2. When reinstalling the coil, loosely fasten the upper right standoff in place first before installing the two bracket screws 3. The standoff is very difficult to install once the bracket is in place.

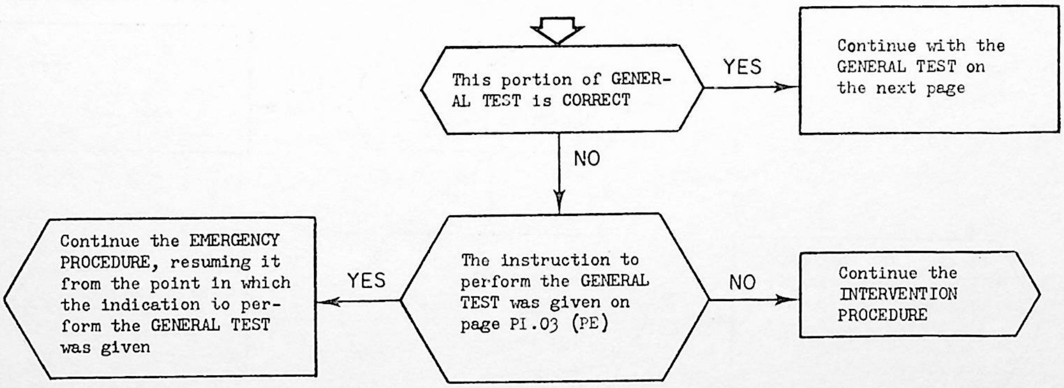


GENERAL TEST - LOGOS 270

Instructions		Printout		Red Light
Decimal wheel = "3" Round off selector = "0"				
RESET				
12345678	#C	12345678	#2	
3	x	3	x	
		37037034.000	T	
	+2	37037034.000	+2	
	S2	49382712.000	S2	
	#	37037034.000	#	
	÷	49382712.000	÷	
		0.750	T	
RESET				
1234	#	1234	#	
3	x	3	x	
		3702.000	T	
	x	3	x	
		11106.000	T	
123456	#C	123456	#2	
2	xC	2	#	
		123456	x2	
		246912.000	T	
	S3	0	S3	
-10	#	-10	#	
-3	÷	-3	÷	
		3.333	T	
	#	-3	#	
-1	x	-1	x	
		3.000	T	
	+3	3.000	+3	
10	#	10	#	
0003	÷	0003	÷	
		3.333	T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "3"		
Round off selector = "9"		
RESET		
100 #	100 #	
-5 %	-5 %	
	-5.000 T	
	95.000 T	
5 #C	5 #2	
1000 %C	1000 #	
	5 %2	
	50.000 T	
	1050.000 T	
R	50.0009999 R	
RESET		
1234567891234567891234 %	1234567891234567891234 %	On
CLEAR		
R	0 R	
10 □	10 □	
	100.000 T	
R	100.000 R	



This portion of GENERAL TEST is CORRECT

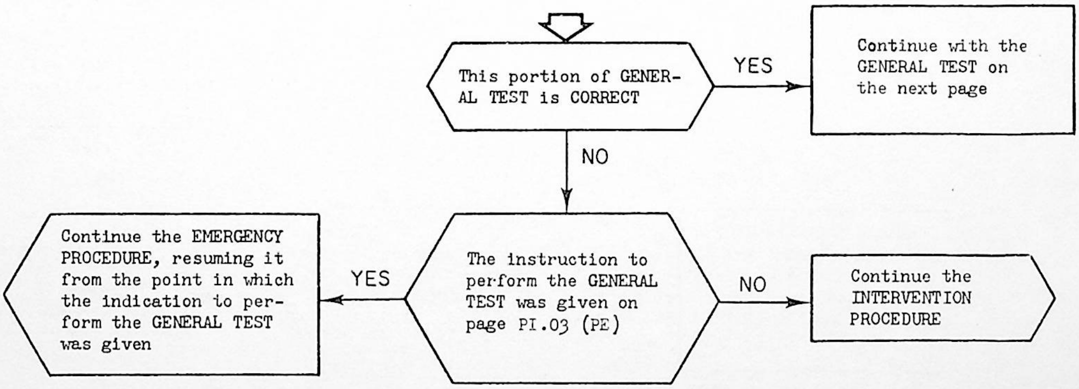
Continue with the GENERAL TEST on the next page

The instruction to perform the GENERAL TEST was given on page PI.03 (PE)

Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given

Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "O" Round off selector = "O" **RESET**		
+	0 +	On
CLEAR		
1 +1	1 +1	
#	0 #	
100 #	100 #	
-1	100 -1	
#	0 #	
#	100 #	
123 S1	-99 S1	
12 +3	12 +3	
123 -3	123 -3	
S3	-111 S3	
R	-0 R	
#	-111 #	
-12 +2	-12 +2	
-123 -2	-123 -2	
S2	111 S2	
T1	-99 T1	
T2	111 T2	
T3	-111 T3	
S1	0 S1	
S2	0 S2	
S3	0 S3	



This portion of GENERAL TEST is CORRECT

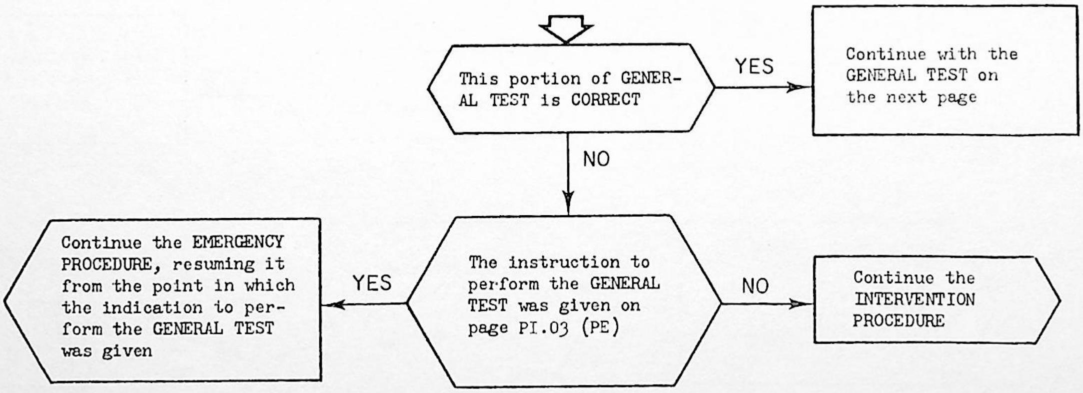
Continue with the GENERAL TEST on the next page

The instruction to perform the GENERAL TEST was given on page PI.03 (PE)

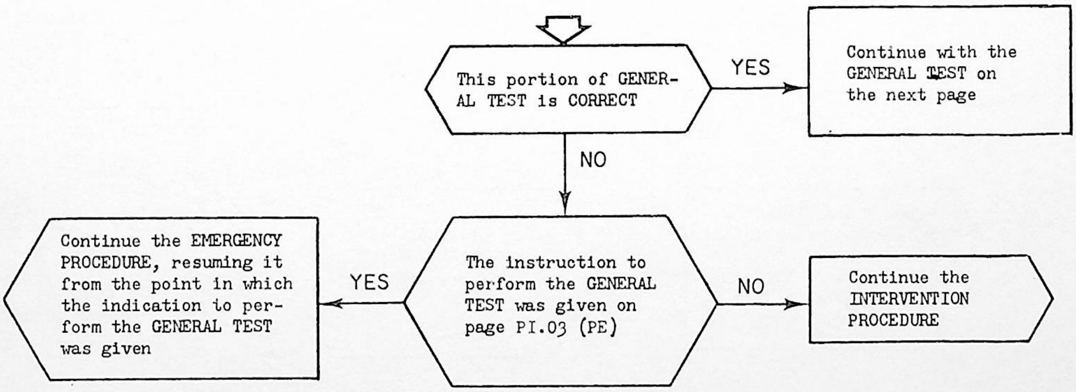
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given

Continue the INTERVENTION PROCEDURE

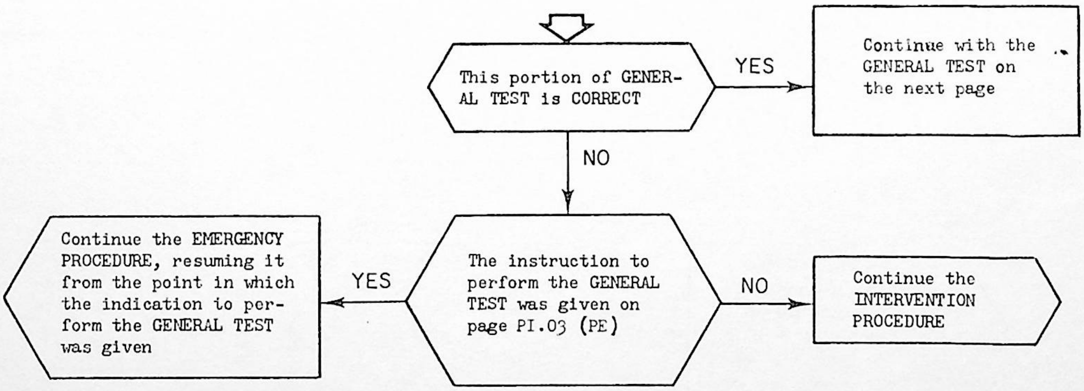
Instructions	Printout	Red Light
Decimal wheel = "0" Round off selector = "0"		
RESET		
9 √	9 √	
	3 T	
√	3 √	
	1 T	
#	2 #	
1.111 √	1.111 √	
	1 T	
Decimal wheel = "1" Round off selector = "0"		
RESET		
-0.002 √	-0.002 √	
	0.0 T	
-0.111 √	-0.111 √	
	0.3 T	
Decimal wheel = "1" Round off selector = "5"		
RESET		
100 #	100 #	
5.000 %	5.000 %	
	5.0 T	
	105.0 T	
#	5.0 #	
+2	5.0 +2	
123 R	5.05000 R	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
YES
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
NO
Continue the INTERVENTION PROCEDURE

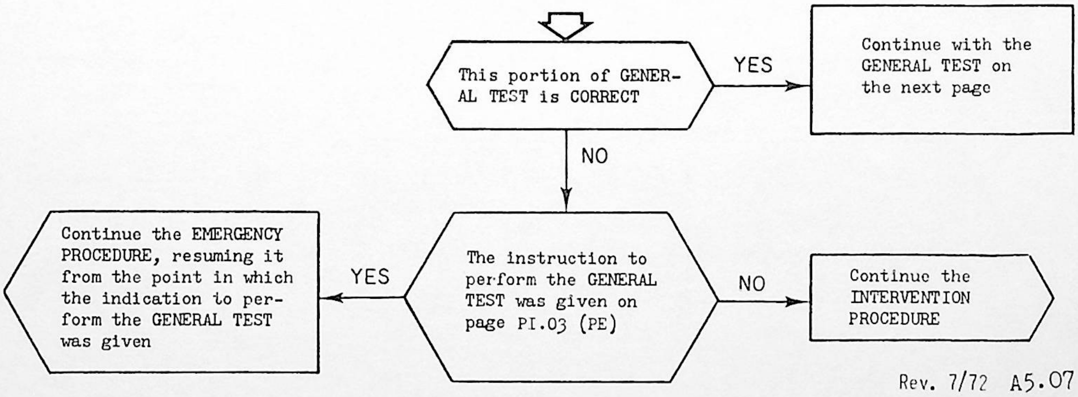
Instructions	Printout	Red Light
Decimal wheel = "2" Round off selector = "0"		
RESET		
- #	0 #	
-3 #C	-3 #2	
-10 -2	-10 -2	
-123		
CLEAR		
1 -2	1 -2	
S2	6.00 S2	
.00-0.123 #	-0.123 #	
123.123		
CLEAR		
123.123 #C	123.123 #2	
-1 -2	-1 -2	
S2	124.12 S2	
-1 Q	-1 Q	
	-124.12 T	
123456789012345678901234		On
Decimal wheel = "6" Round off selector = "0"		
RESET		
841 √	841 √	
	29.000000 T	
324 √	324 √	
	18.000000 T	
6541.2 √	6541.2 √	
	80.877685 T	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "10"		
Round off selector = "0"		
RESET		
□	0 □	
	0.0000000000 T	
-5 #C	-5 #2	
-100 PC	-100 #	
	-5 P2	
	500.0000000000 T	
%C	-5 %2	
	-25.0000000000 T	
	475.0000000000 T	
R	25.000000000000 R	
#	475.0000000000 #	
111 □	111 □	
	12321.0000000000 T	
1.1		
CLEAR		
#	12321.0000000000 #	
#	12321.0000000000 #	
S1	500.0000000000 S1	
R	12321.0000000000 R	


This portion of GENERAL TEST is CORRECT
YES
Continue with the GENERAL TEST on the next page
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "10" Round off selector = "0"		
RESET		
9999.9999 #	9999.9999 #	
1 +1	1 +1	
#	9999.9999 #	
√	9999.9999 √	
	99.9999994999 T	
11 +3	11 +3	
22 +3	22 +3	
1 +2	1 +2	
2 -2	2 -2	
T3	33.0000000000 T3	
T2	-1.0000000000 T2	
S1	1.0000000000 S1	
Decimal wheel = "15" Round off selector = "0"		
RESET		
#	0 #	
#	0 #	
S1	0 S1	
S2	0 S2	
S3	0 S3	
R	0 R	
÷	0 ÷	On
CLEAR		
÷	0 ÷	On
CLEAR		
√	0.000000000000000 √	
	0.000000000000000 T	
S3	0 S3	
R	0.000000000000000 R	
12345678 √	12345678 √	
	3513.641700572214008 T	


This portion of GENERAL TEST is CORRECT
YES
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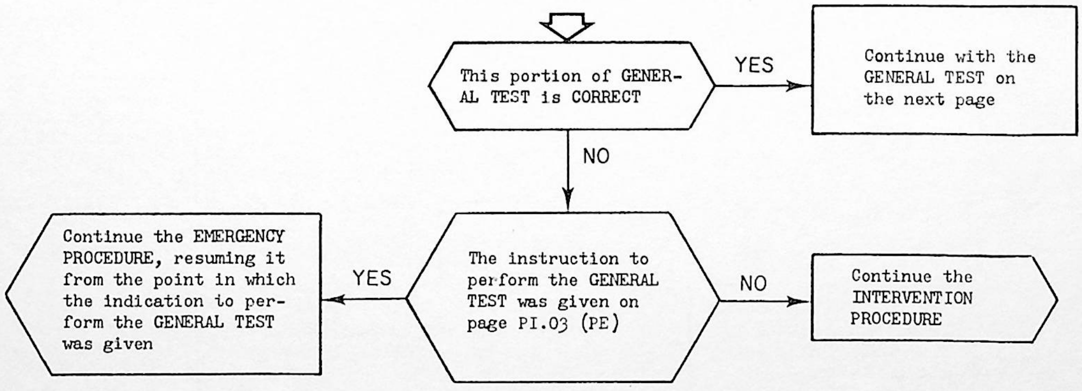
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions		Printout		Red Light
Decimal wheel = "15" Round off selector = "5"				
RESET				
3	÷	3	÷	
		0.000000000000000	T	
	R	0.000000000000000	R	
123456789	x	123456789	x	On
CLEAR				
123456	#	123456	#	
CLEAR				
99	x	99	x	On
	R	-0	R	
26.40	#	26.40	#	
0.1	÷	0.1	÷	
		264.000000000000000	T	
10.3	÷	10.3	÷	
		25.631067961165048	T	
	R	0.0000000000000056	R	
	√	0.0000000000000056	√	
		0.000000074833147	T	


This portion of GENERAL TEST is CORRECT
YES
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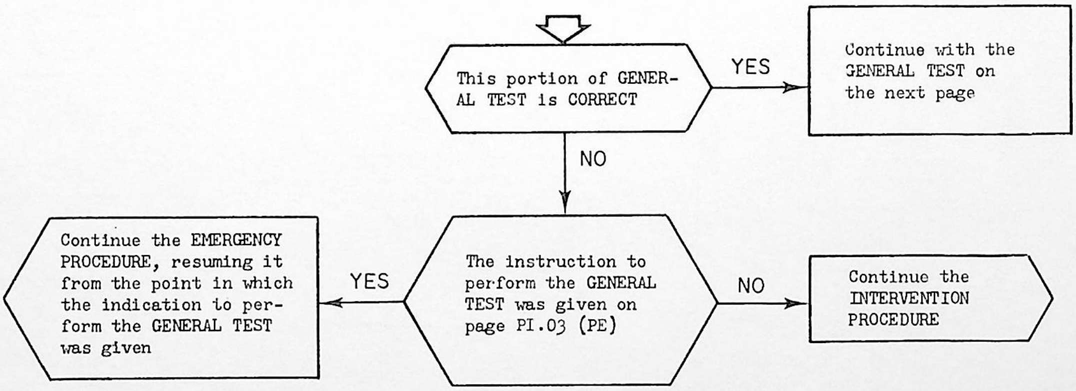
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "15" Round off selector = "5"		
RESET		
C		
CLEAR		
123 #	123 #	
+2	123 +2	
S2	123.000000000000000 S2	
#	123 #	
10 #	10 #	
3 ÷	3 ÷	
	3.333333333333333 T	
CLEAR		
3 #	3 #	
9999999 -1	9999999 -1	
9 -1	9 -1	
S1	-10000008.000000000000000 S1	
#C	-10000008.000000000000000 #2	
1 +1	1 +1	On
CLEAR		
#	-10000008.000000000000000 #	
R	0.000000000000001 R	


This portion of GENERAL TEST is CORRECT
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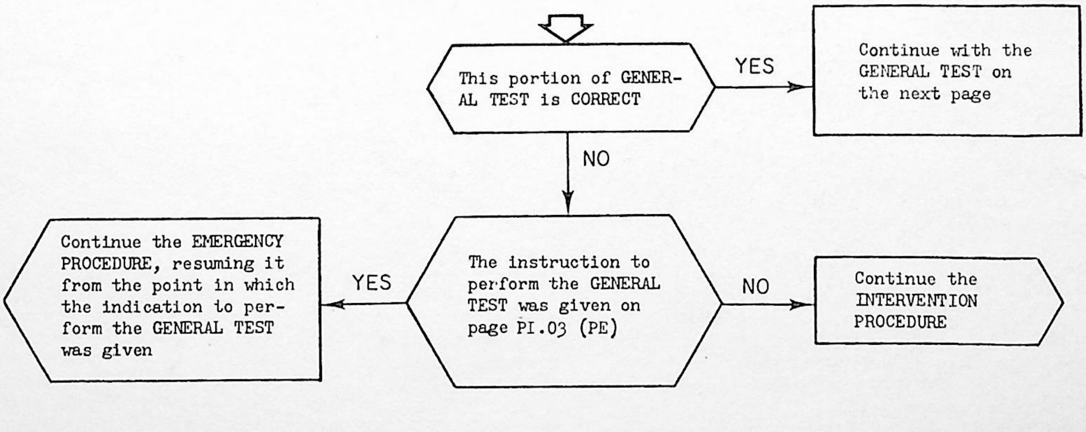
NO
The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
YES
Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE

Instructions	Printout	Red Light
Decimal wheel = "15" Round off selector = "5"		
RESET		
123456789012345678901234 #		On
#		On
CLEAR		
Decimal wheel = "4" Round off selector = "5"		
RESET		
x	0 x	
	0.0000 T	
Decimal wheel = "8" Round off selector = "5"		
RESET		
x	0 x	
	0.00000000 T	
Decimal wheel = "0" Round off selector = "0"		
RESET		
3 #	3 #	
-2 x	-2 x	
	-6 T	
4 x	4 x	
	-24 T	
RESET		
-123 +1	-123 +1	
3 -1	3 -1	
S1	-126 S1	


This portion of GENERAL TEST is CORRECT
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The instruction to perform the GENERAL TEST was given on page PI.03 (PE)
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Continue the EMERGENCY PROCEDURE, resuming it from the point in which the indication to perform the GENERAL TEST was given
NO
Continue the INTERVENTION PROCEDURE